

SD Times

SOFTWARE DEVELOPMENT

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HARMAN INTERNATIONAL TO ACQUIRE QNX, NEUTRINO

Company says it's positioned to compete better in automotive systems market

BY EDWARD J. CORREIA

Harman International Industries Inc., manufacturer of Harman-Kardon and JBL audio lines, will acquire RTOS developer QNX Software Systems Ltd. for US\$138 million in cash, pending Harman shareholder approval. QNX, which had been privately held, will become a wholly owned subsidiary of Harman and keep its name, all employees and its offices in Ottawa.

"I think this was the right decision for QNX to make at this time," said QNX CEO Dan Dodge, who will remain in that

position with the company he founded nearly 25 years ago. "This was an opportunity for both companies to become much stronger," he said, which was necessary to continue competing with Microsoft, Wind River and other larger companies, he added. "As the pace of technologies increases, we realized that we needed deeper pockets to fund some of the things we wanted to do."

In addition to its well-known consumer and professional audio lines, Harman markets automotive systems under its Becker

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Actional's The Name, SOA Is the Game

Merges with Westbridge, claims to offer most complete tool set

BY EDWARD J. CORREIA

Characterized as a merger of equals, the coming together in mid-October of integration tools vendor Actional Corp. and Web services security vendor Westbridge Technology Inc. is all about command and control.

No later than Nov. 18, the combined company, which will keep the Actional name, is



Security is moving out of apps and into the network, says Foody.

scheduled to release SOA Command and Control Platform, a suite of server tools that it claims solve one of the most important problems plaguing Web services developers today.

"As applications evolve into Web services and SOAs [service-oriented architectures], people are taking functionality out of applications and putting it into the fabric of the network," asserted Actional's Dan Foody, who retains his CTO position. "Security and management are being factored out of applications and moving into appliances, agents, gateways, brokers and other network fabric-layer components."

The result, Foody continued, is the dispersal of the development team that was once responsible for development, rollout and maintenance of applications. "Now those

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Meeting Web Services Specs

It all depends on what the definition of 'supports' is



BY YVONNE L. LEE

As Web services specifications emerge, such as October's WS-Management, application server vendors must modify their products to accommodate the specification. But tool makers share a greater burden of having to both integrate the resulting specification into their products and educate developers about how to take advantage of the new features.

BEA Systems Inc., IBM Corp., Microsoft Corp., Oracle Corp. and SAP AG have teamed up to lay out dozens of Web ser-

vices specifications, with Sun Microsystems Inc. getting more involved following its agreement in April to collaborate on enabling .NET and J2EE services to work together.

These second-generation Web services specifications involve how to exchange messages asynchronously, how to exchange them reliably so that the intended recipient receives them, and how to exchange them securely so that others can't view them.

Often, as in the case of WS-Management, a specification

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VA HANGS TAPESTRY ON WEB FOR ADD-ONS

BY DAVID RUBINSTEIN

VA Software Inc. expects to make a hard launch of Tapestry, its new Web site for creating plug-ins and add-ons to its SourceForge Enterprise Edition collaborative development platform, by the end of the year, SD Times has learned.

Tapestry already has been released to SourceForge Enterprise Edition customers, according to Colin Bedell, senior vice president of product development. Companies looking to build integrations from SFEE into a CRM system, for example, can either utilize the SourceForge community or go it alone, explained Jan Liband, VA's director of marketing. With Tapestry, companies can get

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SPECIAL REPORT

C# Gets Sharper

On its third birthday, the programming language gets enhancements from Microsoft, but users say it's still almost equal to Visual Basic .NET ...31



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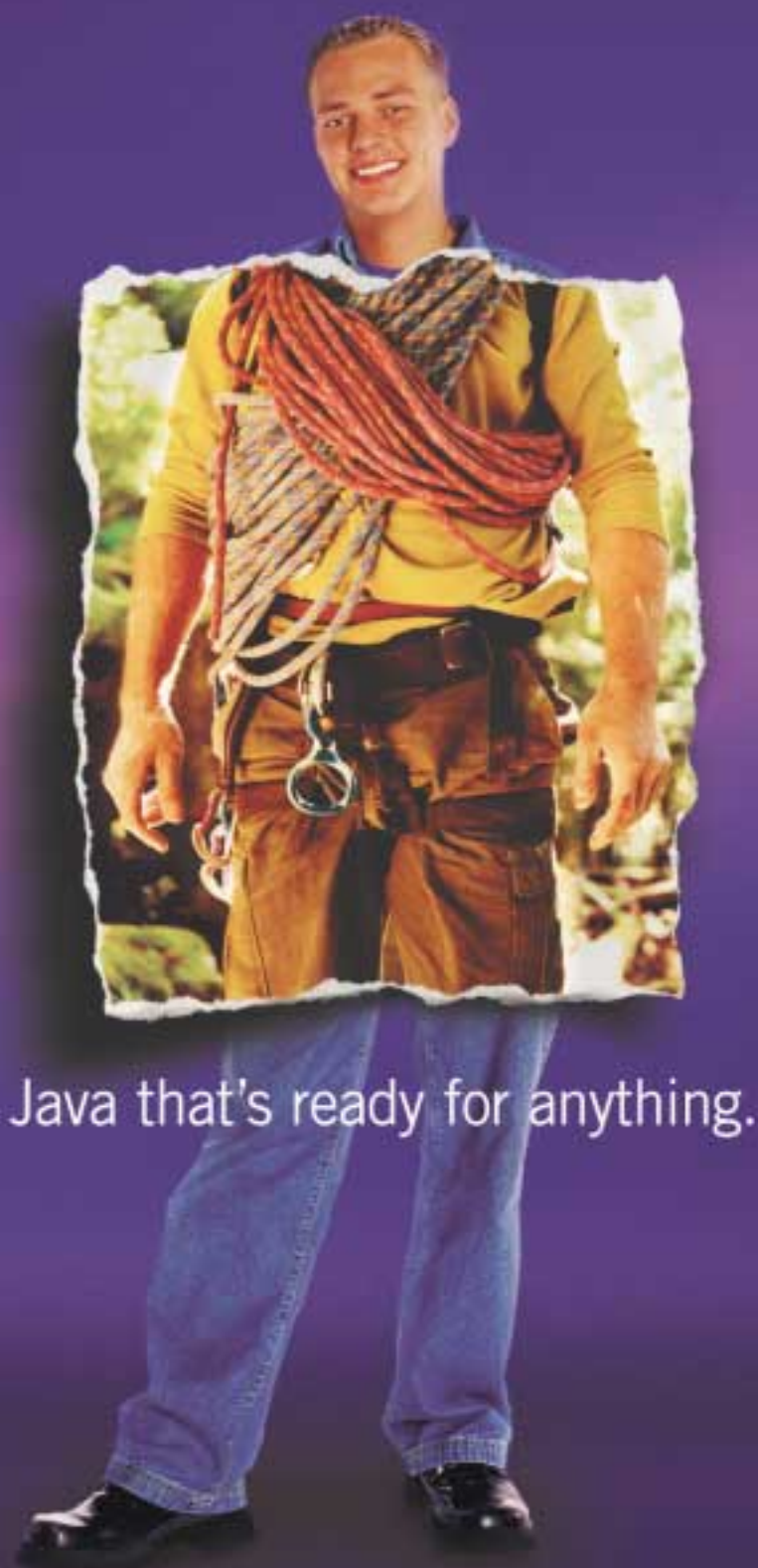


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Rules, BPM Offerings Get Smarter

Easier rules creation, .NET support among new features being introduced

BY JENNIFER DEJONG

The pace picked up in the business rules and business process management markets this fall, with Corticon Technologies Inc., Fair Isaac Corp. and Haley Systems Inc. updating their rules offerings, and Pegasystems Inc. adding a simulation module to its business process management suite.

New to Corticon 3.0., announced last month by the San Mateo, Calif.-based company, is the ability to determine whether new rules added to its rules modeler conflict with those previously entered, said Corticon's president and CEO, Mark Allen.

For example, he said, an

insurance company might formulate a rule that states: "If the applicant is a skydiver, they are high risk," and then later add another that says: "If the applicant is less than 35 years old, they are low risk." Instead of forcing the user (a developer or a business line manager) to anticipate such conflicts, a technology known as "predicate logic matrix" prompts the user to resolve them as they occur, he said. For instance, the rule might be restated as: "If an applicant of any age is a skydiver, they are automatically designated as high risk," Allen said. "It's an intractable problem to understand how every rule interacts

with every other rule," he added.

Corticon 3.0 also can carry out more complex analyses. For instance, it can determine the impact a rule pertaining to purchase order approval might have on a process that spans multiple applications, such as proving compliance with the Sarbanes-Oxley act. "There can be literally millions of permutations," he said.

Corticon 3.0, which includes Business Rules Modeling Studio and Business Rules Server and starts at US\$150,000, provides a spreadsheet-like interface for creating rules. Although it doesn't require programming skills, the developer, not just

the business analyst, remains highly involved in the process, said Allen. Once a rule set is complete, Corticon automatically generates Web services code, enabling the rules server to interact with existing Java, .NET or other applications, said Allen.

NOT JUST JAVA

Moving beyond Java, Minneapolis-based Fair Isaac last month introduced a COBOL version of its business rules offering, Blaze Advisor, and was expected to announce earlier this month a .NET edition of the same. Blaze Advisor can now serve as a single rules engine for

both new and legacy applications, said James Taylor, the company's director of product marketing. Although Blaze Advisor for Java, which debuted six years ago, could access Microsoft code through COM objects, it did not support native .NET. And while Java developers could write interfaces to extract COBOL code from the mainframe, the physical data transfer was too time-consuming to be practical, noted Taylor. Blaze Advisor for COBOL eliminates that problem by compiling rules to IBM mainframe-standard COBOL, enabling them to read and write data in

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Sun and Partners Release Java Spec as BEA, IBM Withdraw

BY YVONNE L. LEE

Sun Microsystems Inc. and several partners introduced the draft of a specification designed for business integration on the Java platform, but two of the most prominent Java application server vendors have pulled out of the specification's development effort.

Java Business Integration (JBI), the name of the new specification that also is known as JSR 208, presents a container model for hosting integration components as services in a service-oriented architecture, said Dave Chappell, chief technology evangelist for Sonic Software Inc. and a member of the expert group.

JSR 208 specifies standard interfaces for integration components, such as BPEL engines, transformation engines or routing engines, to be plugged into an integration container. In addition, JSR 208 defines a shared service-oriented architecture messaging facility.

More than 22 vendors and individual developers of integration and J2EE application servers, including Novell Inc., Oracle Corp., SAP AG, SeeBeyond Technology Corp., Sonic Software Inc., Sybase Inc., TIBCO Software Inc. and WebMethods Inc., are developing JBI. The Apache Software Foundation, Iona Technologies PLC and JBoss Inc. joined the group the week the Draft Review Specification was released.

But BEA Systems Inc. and IBM Corp., which had been part of the original expert group, pulled out earlier in October before the draft spec had been released.

Sun, which leads the effort, speculated that IBM and BEA pulled out of the expert group because the two companies didn't want to have a specification for interoperable integration. "I don't think IBM and BEA see that in their best interests," said specification lead Roger Nolan, senior director of product marketing for integration products at Sun. "They don't want open standards. They don't want portability."

Sonic's Chappell said, "Traditionally an integration vendor will provide their software as a monolithic hub and spoke. In the JBI environment, you're taking the capabilities that an integration provider provides and separating them out as separately deployable services."

BEA and IBM, however, pointed to the Business Process Execution Language (BPEL), which IBM is leading with Microsoft, as a reason for not supporting JSR 208.

BEA declined to discuss the reasons for leaving the expert group beyond its formal statement. "At this point, we have determined that our efforts are

better focused on application-developer focused initiatives such as BPEL, as well as providing enterprise level qualities of service—an area not currently addressed by 208."

IBM spokesman Ron Favali said, "IBM is focusing efforts for business integration around other specs that are further along, such as BPEL."

COMPLEMENTARY SPECS

Supporters of JBI, though, said that effort is designed to be complementary to BPEL.

"BPEL and JBI are not competing," said Shawn Willett, principal analyst at Current Analysis Inc. "They should be

complementary. I think IBM's objection [is] they just feel they have their own architecture and they are pursuing these other standards that are covering [integration]. JBI does not cover business process management standards, and that's what BPEL is."

"JSR 208 works with BPEL, but BPEL doesn't necessarily work with JSR 208," pointed out ZapThink LLC senior analyst Ron Schmelzer. "It's not like you're going to get Microsoft to support JSR 208. Specs like BPEL actually have a lot more sway in the community than things like JSR 208. They have a much broader base of

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Xcode 2: New Model of Development

Apple hopes changes in Tiger will spawn new breed of developers

BY EDWARD J. CORREIA

With the so-called Tiger release of Mac OS X, due the first half of 2005, Apple Computer Inc. will unleash Xcode 2, a version of its rapid development environment that it claims will work with enhancements to the operating system that automatically generate object models, thereby simplifying application development. Xcode 2 also will introduce modeling, include the gcc 4.0 compiler optimized for G4 and G5 processors, and support 64-bit development.

Major changes center around support for Core Image and

Core Data, Apple's concept of building graphics and data processing capabilities right into the Mac OS X 1.4 operating system.

According to Wiley Hodges, senior product line manager for core OS and developer tools, what's new in Tiger is fundamentally a persistence mechanism for the Cocoa application framework. "This enables developers to easily make object models for their applications persistent to disk in either XML or binary files or to a SQL database."

He said the capability builds on Cocoa bindings, a feature

introduced with Mac OS X 1.3, also known as Panther. "In object-oriented programming, a lot of your code is glue between views and the data model—code that just says, 'When this changes, update something over here.' Controller functionality in Cocoa bindings automated all of that for the developer."

Core Data builds on that, Hodges said, by providing an automatic way to manage model classes. "We're at a point in Tiger where developers can just focus on the special purpose code they need for their appli-

cations and not have to write the general housekeeping code they would need to build data models and synchronize them with views."

MODEL OF DEVELOPMENT

Hodges said Xcode 2 will introduce a simple subset of UML-based modeling capabilities. "It uses UML for class inheritance, so you can draw a [class] relationship diagram from C++, Java and Objective C code that is translated into an object model with the press of a button. As you make changes it stays in sync,

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News Briefs

COMPANIES

Microsoft Corp. has pledged that it will not penalize customers that run its server software on multicore processors; it will count such processors as a single unit. Early dual-core processors are available from several manufacturers, and volume shipments are expected to begin next year. There had been questions whether a per-CPU license would be treated as per processor or per core . . . **IBM Corp.** has released Object Rexx to the open-source community, where it will be managed by **The Rexx Language Association**, an independent user group for the scripting language that originated on mainframes but has since been ported to other operating systems. As part of this move, IBM will be withdrawing Object Rexx from its list of commercial products, effective January 2005.



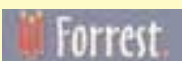
NEW PRODUCTS

Aonix North America Inc. has announced a high-integrity UML profile for real-time applications. The high-integrity profile is an extension to the company's **Ameos** modeler, and is target-language independent. According to the company, the profile eases development of distributed applications using Java tasks and Remote Method Invocation by predefined stereotypes, such as **HIPeriodic** and **HISporadic** . . . **WebEdition Software Ltd.** is offering **MAMP**, an open-source utility for making it easier to install Apache server, MySQL and PHP on Mac OS X. The tool is designed to not interfere with a user's system configuration, plus no existing installation of Apache/MySQL will be affected by MAMP. Both systems can run in parallel . . . **TimeSys Corp.** announced that it has registered its **TimeStorm Linux** distribution according to OSDL Carrier Grade Linux Definition 2.0.1. TimeSys' Linux uses the 2.6 kernel and runs on PowerPC or x86 processors.



UPGRADES

The Finnish firm **Aivisto Oy** has updated its **Project Analyzer** static code reviewer for Visual Basic. Version 7.1 of the US\$199 analyzer calculates 149 metrics, reads Microsoft Office VBA code and integrates with VB.NET. The new version can automatically populate the Task List of Visual Basic .NET, thereby helping developers integrate code improvements into their workflow. Project Analyzer works with both the native and .NET versions of Visual Basic and Visual Basic for Applications . . . **TIBCO Software Inc.** has added data integration capabilities to its **BusinessWorks** integration platform. The platform previously offered extraction, transformation and loading and business process management . . . Version 3.0 of **JIRA**, a J2EE-based issue-tracking system from Atlassian Software Systems Pty Ltd., adds a new workflow editor, the ability to define subtasks, and support for XML-based plug-ins. The new version also has an improved user interface, a revamped custom field system, and features to allow individuals to be defined as "watchers" on a specific issue. Watchers are notified of issues or changes but are not part of the project workflow. Pricing ranges from US\$1,200 to \$2,400 per server, depending on features needed . . . The Apache Software Foundation has updated its **Forrest** project to version 0.6. Forrest is an XML-based documentation framework based on Apache's Cocoon content management system. This release provides workflow and productivity improvements, uses CSS instead of tables, and is more efficient in utilizing materials where they're found on the network, as opposed to copying them to a document build space . . . **Sun Microsystems Inc.** has enhanced **Sun Java Studio Creator**, its visual development environment for server applications using JavaServer Faces. The update, offered as part of a US\$99 annual subscription to the Sun Developer Network, now includes Sun's Java System Application Server 8 and a J2SE 1.4.2 SDK. The latest version also works on Mac OS X and Solaris x86 desktops, as well as Windows . . . Version 7.2 of Intel Corp.'s **VTune** performance analyzer solves compatibility problems with Windows XP Service Pack 2.



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Aspect-Oriented Tools Emerging From Eclipse

IBM leads effort to ease method of modularizing software

BY JENNIFER DEJONG

IBM Corp. researchers are leading an Eclipse project that aims to move aspect-oriented programming into the mainstream, forwarding a technology that could alter the way developers write and extend software.

They were expected to demonstrate the Concern Manipulation Environment (CME) at the Object-Oriented Programming, Systems, Languages and Applications (OOPSLA) conference in Vancouver, British Columbia, last month.

CME provides a suite of tools for creating, manipulating and evolving software that uses aspect-oriented software development (AOSD) techniques, said Bill Chung, a research manager at IBM's T.J. Watson research center in Hawthorne, N.Y. Such techniques aim to modularize software, making it

easier to add new features. The idea is to manage "concerns" such as security policies, password schemes or internationalization rules, separately from the code to which they apply. In object-oriented software, it's difficult to add features that weren't initially planned for, because each update to the application impacts so many parts of the code, said IBM's Peri Tarr, a research staff member who works with Chung. At the same time, it's virtually impossible to anticipate every change you will want to make going forward. "AOSD lets you go back and say, 'I know now what I didn't know then. How can I modularize this software so I can add new features?'"

The tools included in the CME project will enable developers not only to modularize existing software, but also to

write new applications using aspect-oriented techniques, noted Chung. CME comprises four components: a query facility, concern modeling tools, an extraction component and a composition piece.

The query facility lets the developer start with a big code-base that hasn't been modularized and find all the places that will be impacted by the "concern" in question, such as security policy, said Tarr. "It lets you say, for example, 'Find me all the places where something writes out to a file.'" It looks not only for names, but also for the structure and flow of the program, she said.

The concern modeling tools let the developer take all the "concerns" in software and graphically depict how they relate to the rest of the program. "For instance, you show how a spell-checker and an internationalization policy relate to a word-processing program," said Tarr. "You are modeling the relationships among the concerns in much the same way that you could use object-oriented techniques."

The extraction component moves beyond object orientation and into aspect orientation, Tarr said. It lets the developer take a concern in the concern model, pull out the code associated with that concern and move it to another location.

All four components are under development, but the extraction tool has not yet been implemented, said Tarr. She did not say when it would be ready but noted that aspect-oriented technology has moved beyond the earliest stage. For instance, AspectWerkz (aspectwerkz.codehaus.org/releases.html) offers an aspect-oriented framework, as does JBoss (www.jboss.org/developers/projects/jboss/aop), and the Eclipse Project (eclipse.org/aspectj) provides the AspectJ language.

It's hard to say whether it's moved into the mainstream yet, said Tarr. "I talk to lots of people who are using it today. For them, it is already a way of life." ■

Microsoft Delivers SDK Plug-In For Building on Whitehorse

BY JENNIFER DEJONG

Microsoft Corp. last month delivered a software development kit that plugs into Whitehorse, enabling architects, ISVs and systems integrators to customize the Web services designer promised for Visual Studio 2005 Team System.

At the ACM conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA), in Vancouver, British Columbia, Microsoft released a Community Technology Preview (CTP) of the framework and tools for building domain-specific designers. "Tools [in Whitehorse] today are too generic," said Microsoft's Prashant Sridharan, a lead product manager for Visual Studio. "It's difficult to customize them for specific industries."

Whitehorse is a set of tools for building service-oriented applications, enabling the developer to drag and drop reusable services from the toolbox, connecting them to build an application. "But developers need to model things that are innate to

their own businesses," Sridharan said. "For instance, in retail you want to model the workflow of an e-commerce application, and isolate services for payment for credit card transactions."

To address that need, Microsoft announced at OOPSLA industry-specific partners, including Siemens AG, which is expected to use the software development kit to build medical industry-specific tools for Team System; and the U.K.-based Nationwide Building Society, which is expected to provide tools for financial services. "Folks like Siemens know more about the medical industry business than Microsoft does," said Sridharan. The technology also is being adopted by Kinzan Inc., which is readying Web workflow tools for Team System, he said. The SDK is not aimed at the "rank and file" developer; it is likely to be used by enterprise architects to design custom tools for in-house use, Sridharan said. "Developers need to have on hand in their toolboxes only the things that they want." ■

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Veritas' i3 Uncovers True Source of Errors

BY YVONNE L. LEE

Veritas Software Corp. has begun shipping a version of its i3 performance management software that adds the ability to track application availability and to correlate events happening in various parts of the overall application.

Errors may occur in one level of the program, such as the network, the application server, the database server or the storage hardware, but they may manifest themselves in another level, said Tom Mulvehill, product line manager.

A new feature, which Veritas calls SmartLink, uses data gathered from agents collecting information across those various areas, and uses several algorithms to hone in on where the problem actually lies, he said.

"A lot of times, you'll identify a problem on one tier. You think the problem is in the J2EE tier, but it's actually in the database," he said, adding that SmartLink

allows users to correlate information across the layers to determine the root cause of an error.

The software also can use information collected from the agents to provide suggestions for tuning the application. It is designed to monitor application performance, as well as the performance of the component

parts, and to "decompose that in context," Mulvehill said.

i3 7.0 costs US\$2,300 per processor.

Other new features include the capability to check application availability and to manage service levels, the ability to discover code changes and the ability to discover usage patterns. ■



i3 monitors performance of the parts involved in an application.

Java Support in Analysis Tools to Run Like Klocwork

BY DAVID RUBINSTEIN

Write once, analyze often.

That's what Ottawa-based static analysis tools vendor Klocwork Inc. is making possible with the Nov. 15 announcement of its support for Java across its product suite.

"We've seen an acceptance of Java and its growth in terms of the size and complexity of applications, measured in millions of lines of code" said Chris Fedorko, vice president of product management.

The tools in the Klocwork 6.1 suite—InSight for architecture visualization, InForce for the development desktop, InSpect for identifying application vulnerabilities, and InTelect for presenting metrics—have been re-engineered to deal with the defects that are specific to Java, Fedorko said.

The tools will be available either as stand-alone products or as plug-ins for the Eclipse framework or IBM's Rational Application Developer for Web-

Sphere, and are expected to be generally available by the end of the month.

InSight now will be able to provide Java developers with a view from an architectural perspective, showing relationships between components and how the system works together, he explained. InForce has been extended to check for resource leaks and synchronization problems specific to Java, Fedorko said, noting that earlier versions of the tool had

been geared to C++.

The InSpect tool has been updated with more object-oriented metrics for system-level analysis, he said. It is able to detect problems with components that aren't always connected as well as inefficient code dependencies.

In December, separate from this release, Klocwork will roll out its update to InTelect, which is a dashboard for measuring risk within an application, Fedorko explained. ■

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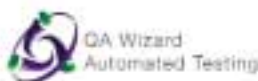
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Apple Hopes Tiger Changes Lure New Developers

◀ continued from page 5

and you can annotate the diagram and document your work."

In addition to Xcode's usefulness for documenting projects, Hodges said there's a quick-model function. "You can

point at a hierarchy or third-party framework, and it will generate a class diagram on the fly. Both diagrams permit navigation directly to the corresponding code, he said. "It's a nice way to visualize your code,

understand the structure and navigate your project."

Xcode 2 also will include the gcc 4.0 compiler, which Hodges said is specifically tuned for Apple's G4 and G5 processors. "The benefit is that programs

that use mathematical forms that are vectorizable will see significant performance benefits." Such applications include those used to create audio effects and synthesis.

Hodges said support for 64-

bit development will benefit developers building performance-hungry server-side applications and computation-intensive scientific apps. "You increase from a 4GB address space to 16EB. This is very important to people using large datasets," such as the human genome, he said, which requires more than 4GB to reside in memory at one time.

As with all 32-to-64-bit migration, the relative ease of the job depends on how the 32-bit code was written. "It can be as simple as recompiling," Hodges said, but developers that have written code that depends on pointer size will have to modify their code. "All we're doing is extending memory pointers to be 64-bit. Everything else remains identical to our existing [development] model." An extensive porting guide is available, he added. ■

SUN, PARTNERS RELEASE JBI

◀ continued from page 5

adoption of not only Microsoft but the mainframe producers and the COBOL companies."

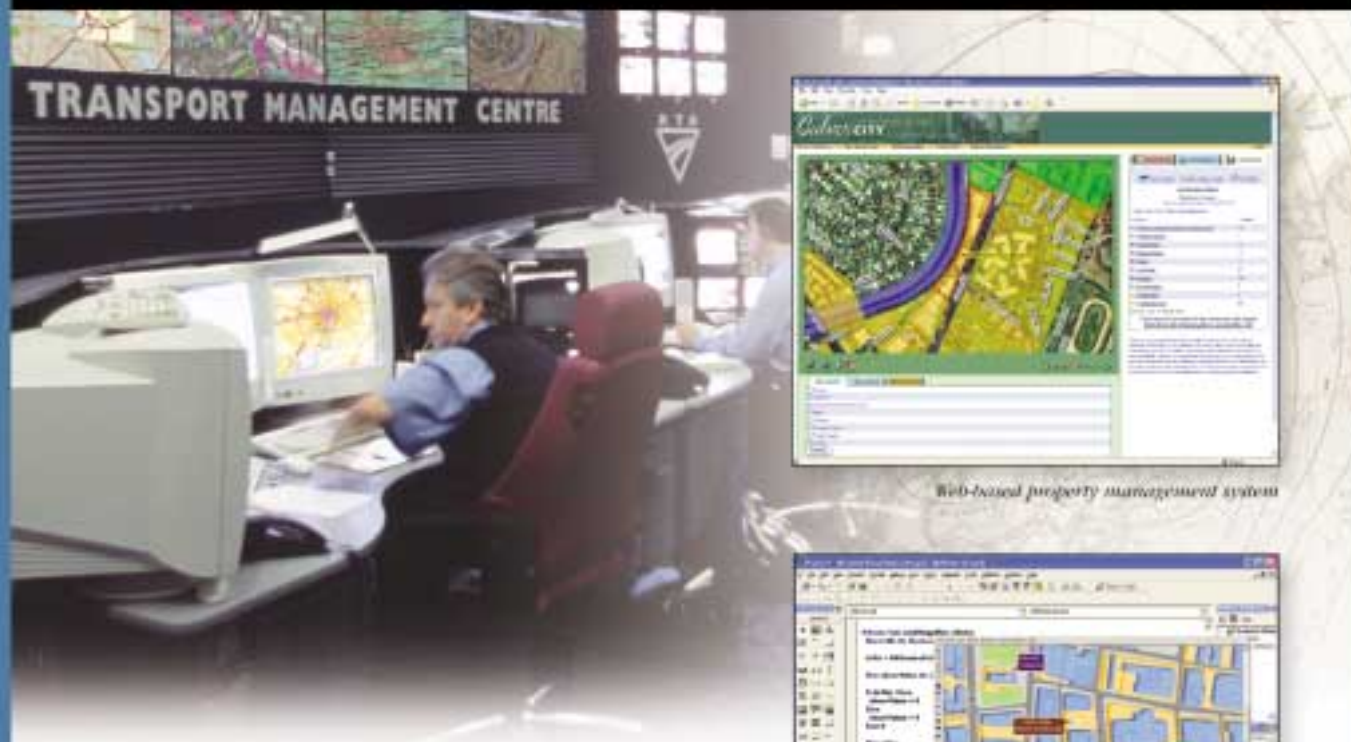
Both Schmelzer and Willett said IBM's absence diminished JBI's significance.

"IBM and BEA are huge companies that have very large developers, and they don't have to stick around with these specs if they don't want to," said Schmelzer. "It is significant that IBM and BEA are not participating in it, and it's going to blunt the overall impact. The JSRs are meant for broad-based interoperability, and if you don't have two of the most important companies, it's not going to be interoperable."

Willett said, "Without IBM's participation, I think that is a blow to JBI. Some of the people who do support JBI don't want to make it part of the J2EE standard. Those are two significant issues about how much support it's going to get."

JBI has been in development for 18 months, and Nolan said he expects the specification to be released in mid-2005. "Now that we've got the early draft review, I'm hoping that we can wrap it up by this coming summer," he said. "Again, it's a democratic process. It's not something we can legislate to people." ■

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IBM Upgrades Host Integration Tools

BY DAVID RUBINSTEIN

Furthering its ability to help developers access CICS and COBOL applications for reuse in distributed applications created in service-oriented architectures, IBM Corp. late last month enhanced eight tools from its Application Integration and Middleware (AIM) portfolio for zSeries mainframes.

The enhancements "help customers with decades and trillions of dollars of investment in COBOL and CICS applications," according to Tom Dunham, business unit manager for AIM zSeries tools. "We've been maniacally focused on 'on demand' across our entire company. One aspect of that is there needs to be alignment of IT and the business side. It requires flexible business processes so you need flexible IT. That's provided through SOA and Web services."

The tools help businesses bridge their distributed and mainframe application efforts, Dunham said. "Between our Rational team and our AIM team, we have the broadest reach across that domain," he claimed.

One of the linchpins of that vision is the Rational Functional Tester Extension for Terminal-based Applications, which was announced at the Rational user conference earlier this year. The tool, Dunham said, lets J2EE applications be tested as extensions to CICS and COBOL applications.

CICS Interdependency Analyzer (IA) version 1.3 has been enhanced with the ability to give more information for customers to dynamically balance workloads for CICS applications.

"This gives insight into the relationships of transactions, and helps people understand what they've got running," Dunham said. When used with WebSphere Studio Asset Analyzer, "it gives you an understanding of all the assets you have." WebSphere Studio Asset Analyzer provides a static snapshot, which can be used to gauge the impact of change on the application, while CICS IA provides a dynamic view of what's happening in live transactions, he explained.

WebSphere Studio Enterprise Developer (WSED) version 5.1.2 is a model-based environment targeted at developers

building J2EE applications that have a need to tie into and maintain existing COBOL applications, Dunham said. WSED supports Struts and Java Server-Faces for the creation of rich

interfaces. "It will let people familiar with procedural languages build an application, push a button and generate code to Java," he said. "It helps customers start building the bridge

between Java developers and COBOL developers."

Dunham lumped together File Manager 5.1, Debug Tool Utilities and Advanced Functions for z/OS 5.1 and Fault

Analyzer 5.1 as "problem determination tools," and said each now has better integrations with WSED. The debug tool now can do nonlanguage-environment assembler debugging, while the Fault Analyzer now supports WebSphere Application Server, and File Manager can work with DB2 8, he added. ■



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With Stylus Studio 6, XML Mapping Goes Both Ways

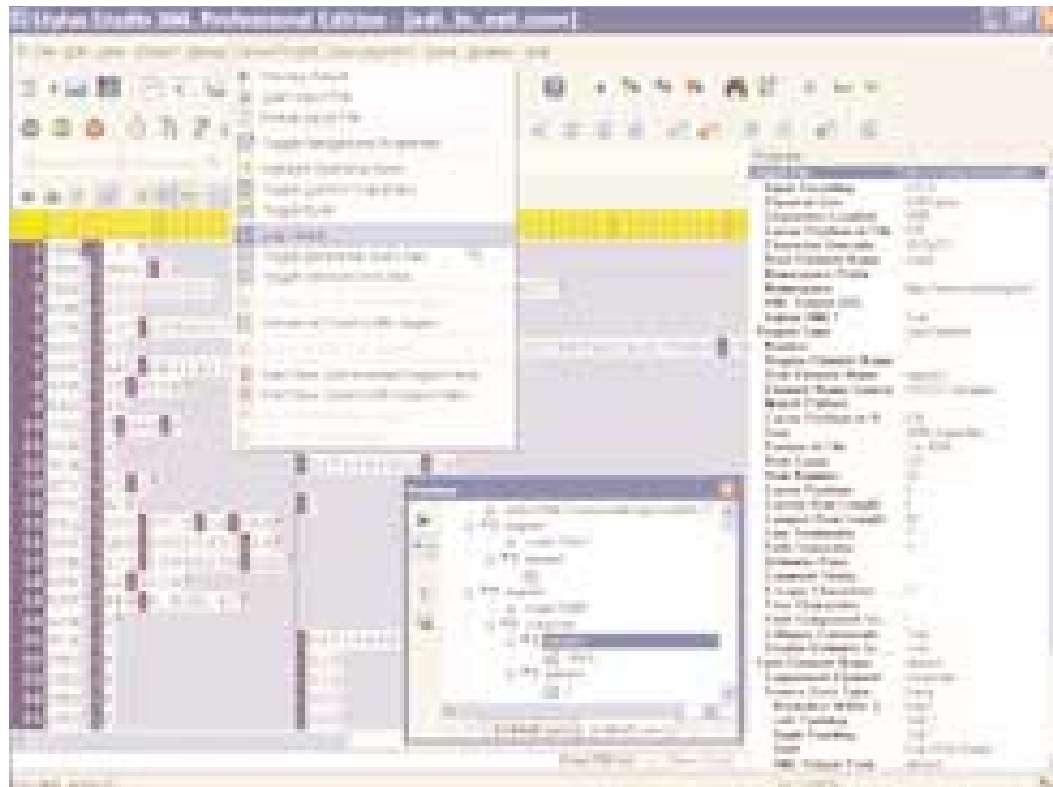
Transformation-defining text can be edited, redisplayed graphically

BY EDWARD J. CORREIA

The race is on among XML development environments to convert myriad file types to the extensible markup language. The latest to qualify is Stylus Studio 6 XML Professional Edition, released by Progress Software Inc. in early October, which includes a graphical mapping tool that the company says permits developers not only to build such transformations, but also to reverse-engineer them.

"Files converted to XML can be used in the middle tier using standard technology," said Ivan Pedruzzi, a software architect at Progress, speaking of the benefit of such capabilities. "You can move your data so it can be understood by partners, other applications and on other platforms."

Pedruzzi claimed that what differentiates Stylus Studio from Altova's XMLSpy and other competitors is two-way editing. "We have a great advantage in terms of XSLT and XQuery development," he said. "With [Altova's] MapForce, you design a mapping and export it as a transformation. If you change the transformation, you cannot come back to the visual tool. With Stylus Studio you can come back to the text representation, switch back and forth or



The 'convert to XML' module in Stylus Studio 6 outputs any file type as XML, the company claims.

reverse-engineer the XSLT. That's important because you're not locked in."

Its "convert to XML" module is the graphical environment responsible for this two-way editing, which Pedruzzi said can be used to "convert between any arbitrary file format to XML," including flat, binary, EDI and text files.

Also new is support for the W3C's forthcoming XSLT 2.0

specification and integration with the Saxon 8 open-source XSLT processor project. "This is the only XSLT processor that supports XSLT 2.0 stacks," which Pedruzzi said are important for simplifying the development of transformations. "With XSLT 1.0, this was difficult to do; the new language makes it easier."

A redesigned graphical schema designer gives developers a real-time view of

both the text and graphical portions of the schema simultaneously. As visual parts are created and modified, corresponding text parts are displayed in the same window. "This is an interesting teaching tool," Pedruzzi said.

Stylus Studio 6 is available now for Windows development hosts for US\$495 per seat, a \$100 increase from the previous 5.3 release.

SLEEPER FEATURES

SD Times has learned that Stylus Studio 6 had at least one feature that was not announced at the time of its launch: integration with Berkeley DB XML 2.0 from Sleepycat Software Inc.

"A developer using [Stylus Studio 6] will be able to open, browse and access Berkeley DB XML as a data source, thereby simplifying development," said Rex Wang, Sleepycat's vice president of marketing.

"Developers rely on XML for data interchange in their Web-enabled SOA applications," said Sleepycat president and CEO Mike Olson, adding that for such XML-based applications, which often transport and perform data translations among large data systems, having a database available can make apps run more efficiently by caching transformed XML at each end point. "For nonrepudiation or performance reasons, you'd like to be able to store the native XML you generate or receive so you can verify that it was received and you don't have to generate it again. Our database makes that possible, and it's easy to get."

Berkeley DB XML 2.0 was scheduled for general availability by mid-November and is free for noncommercial use. ■

Watchfire Takes Control of AppScan Security Software

First release since Sanctum acquisition adds greater sophistication to vulnerability tests

BY DAVID RUBINSTEIN

Watchfire Corp. last month released version 5.0 of the AppScan application security software it acquired from Sanctum Inc. in July, with new features that make the vulnerability assessments more sophisticated, the company says.

"Hackers are more advanced, so more intelligence is required behind the tests," said Steve Orrin, former CTO at Sanctum who now is vice president of security and technology at Watchfire. "It's like an arms race. There's always a gap" between what hackers are doing and what companies are doing to defend against those actions, but Orrin claimed that

Watchfire, compared with other application security vendors, "is a little bit ahead of the game." Orrin estimated there is a lag of six to 12 months between what hackers are doing and when those actions become commonly known in the industry.

AppScan's test engine has been enhanced to do multi-phase scanning of applications, according to director of product marketing David Grant, so that if any tests reveal new links within an application that weren't explored, AppScan will create tests for those new parts of the application. AppScan now also can do multistage tests that need multiple

requests and responses to execute, Grant added.

Also new to AppScan is a port listener that recognizes new kinds of HTTP attacks by detecting out-of-band responses, Orrin explained, saying that the software sits as a proxy server, listening to a specified port for HTTP requests and ensuring the responses also are HTTP.

Among the new vulnerabilities Watchfire has identified is HTTP response splitting, which is an attack that splits a single response into two and allows the hacker to disrupt the order of the Web application. "You can poison the Web cache, or have your server run my Web

page," Orrin said. "You can do a lot of logic subversion."

But knowledge of a vulnerability is not always a guarantee that it will be fixed, Orrin cautioned. "It's been 10 years since cross-site scripting was discovered, and it's still a problem today. But we're seeing development managers getting it by starting to apply the right policies" in the application process, he said.

To cut down on these types of vulnerabilities, Orrin said vendors must start to bring these tools to developers. "Microsoft's not out there promoting these solutions," he said, noting that the drivers have been regulatory compliance and the inclusion of

QA teams in compliance, an area in which auditors worked alone. Orrin said 15 different compliance reporting templates are now included in AppScan 5.0, which comes in developer, QA and auditor editions. Pricing was not available.

Grant said that an update to AppShield, the company's firewall, is in development and should be out late this year or early next, and a port to Linux also is in the works. Grant explained that before the Sanctum acquisition, Watchfire could offer analysis of a production site and create dashboards, but now can offer visibility and testing throughout the Web development life cycle. ■

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Telerik Components Boost ASP.NET

BY JENNIFER DEJONG

Telerik announced new and updated components last month, making it easier for developers to alter the look and feel of ASP.NET applications.

New to radeditor 4.0 is sup-

port for the "skinning" mechanism in .NET 2.0, which lets developers automatically change the appearance of the toolbar and dialogs by applying predefined styles, as well as the ability to paste content created in

Microsoft Word into the RAD editor, without having to remove the Word tags by hand, said Svetozar Georgiev, marketing manager for the Sofia, Bulgaria-based company. radeditor costs US\$349 per developer.

The new version of Telerik's tool for displaying and managing hierarchical data, radtreeview 3.0, lets developers drag nodes from one tree and drop them onto another. Its predecessor, 2.5, supported that function only

within the same tree, said Georgiev. radtreeview costs \$249.

A new component, radtabstrip 1.0, priced at \$199, automates building horizontal, vertical or "crawling" tabs, which use arrows to indicate that the view is continued. It also lets developers embed text and icons in the tabs, Georgiev said. ■

CA Life-Cycle Tools Embrace Web Services

BY DAVID RUBINSTEIN

Looking to take two of its life-cycle management tools further into the Web services arena, Computer Associates International Inc. last month released updates to AllFusion Plex and AllFusion 2E, designed to make it easier for developers to deliver applications and components as services.

"The last release [in 2002] was our first foray into Web services," said Mo Donigan, director of product marketing. "Now we're taking advantage of standards available through J2EE and .NET to help our customers ease into Web services." The first release of the tools also was under the Advantage brand; CA has eliminated that to give its customers an easier way to understand its portfolio, Donigan said. Pricing was not available for these product updates.


Version 5.5 of AllFusion Plex, CA's model-based development environment, can now be used to expose business logic as services, he said. Those logic components also can be exposed to .NET-based applications, and COM objects now can be imported into application designs, according to the company. Previously, hooks were provided to tie applications generated in Plex to J2EE application servers, he said.

Meanwhile, AllFusion 2E, which is the company's modeler for IBM's midrange servers, now includes a Web enablement option that can be used to run iSeries sessions through a browser. Developers writing TN5250 terminal applications also can generate Enterprise JavaBeans that can be turned into Web services, Donigan explained. These midrange developers, he said, "are looking to exploit the iSeries into a wider enterprise environment." ■

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Databeacon Reporting Engine Is Smart to the CORE

Brings together thin- and rich-client approaches

BY YVONNE L. LEE

Databeacon Inc. in October released three ad hoc reporting tools that integrate with Microsoft Office.

The tools are designed to create reports that can be manipulated on the fly, as opposed to preformatted management reports designed to be reused, said president and CEO Andy Coutts.

The three tools are: Smart Client Professional, which costs US\$5,895 for five named users; Smart Client Standard, which costs \$4,495 for five named users; and the \$395-per-user Analyst. "We target the midmarket, which we deem to be companies of 100 to 1,000 employees," said Coutts.

All three applications use a proprietary technology that Databeacon refers to as Client OLAP Reporting Environment (CORE), which melds aspects of thin- and rich-client approaches. Instead of communicating with the server

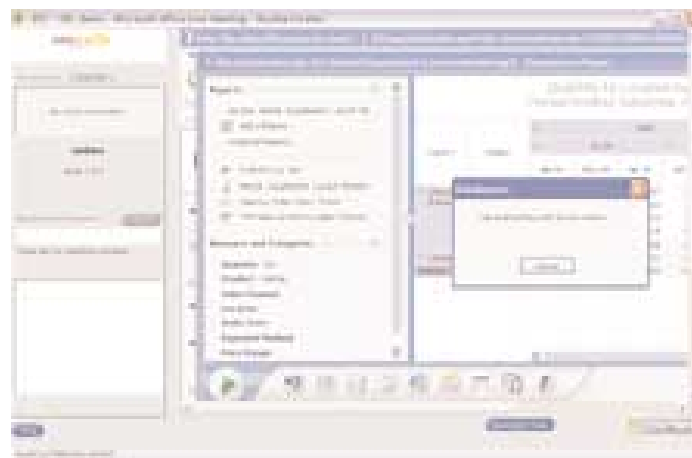
each time it needs new data, CORE downloads all the Web reports, data and analysis software to the PC at the beginning. All manipulation can then be performed on the client PC. Smart Client Professional adds an API with a scripting language.

The Smart Client tools can create reports that can be dynamically manipulated over the Web, Coutts said. The Analyst application will enable individuals to manipulate reports

that have been created by the Smart Client applications, but Analyst users can share only the static text information and charts, he said.

The reports can be saved as text by selecting an icon at the bottom of the report. All reports created with Analyst are compatible with and can be used by the Smart Client tools.

The tools work only with a client PC that has Microsoft's .NET Framework. ■



Databeacon's Smart Client software can be used to create and manipulate ad hoc reports without having to connect to a server to change the data.

WS-Security, New Filters in SOAPtest

BY YVONNE L. LEE

Parasoft Corp. in October upgraded SOAPtest with more load-test filters and with the ability to test for compliance with OASIS' WS-Security specification.

SOAPtest 3.0, which is designed to perform Web services testing, now has an emulator to test whether applications will interoperate with

client applications built with BEA's WebLogic, IBM's WebSphere and Microsoft's .NET Web Services Extensions, said Jeehong Min, project manager for SOAPtest.

Although he admitted that Parasoft will need to adapt its product after the Web Services Interoperability Organization (WS-I) nails down its profile for interoperability in meeting

Web services security specifications, he said SOAPtest can provide some measure of interoperability testing.

"There are some gray areas, but there are blatant wrong implementations" of existing security specifications, which are still in the early stages of development and acceptance, he said.

While the WS-I is working

on sorting out the gray areas, SOAPtest can flag the areas where an application overtly does not comply with existent security specifications.

In addition to WS-Security testing, SOAPtest, whose price starts at US\$3,995, has improved filtering for load tests, Min said.

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Speaker: Dr. Gopinath Ganapathy
Vice President, Engineering,
CollabNet Inc.

Dr. Gopinath Ganapathy joined CollabNet in April 2003 as vice president of engineering when CollabNet acquired the assets of Enlite Networks Inc., an enterprise collaboration technology startup. Dr. Ganapathy was previously the founder and CEO of Enlite Networks Inc. and has nearly 20 years of technology, software, and executive management experience in the electronics industry. Dr. Ganapathy started Enlite Networks after leaving Cadence Design Systems, where he was a vice president of marketing for the Verilog product line.



Speaker: Theresa Lanowitz
Research Director, Gartner Inc.

Theresa Lanowitz joined Gartner in July 1999 where she is a member of the Research and Advisory Services organization specializing in software quality assurance and mobile application development. Prior to joining Gartner Group, Ms. Lanowitz held the position of marketing strategist for Sun Microsystems Inc.'s Jini project. She also headed the marketing department of the Internet products division at Borland International where she was responsible for the introduction of the JBuilder Java IDE and Borland C++.



Moderator: David Rubinstein
Editor, SD Times

David Rubinstein brings more than 25 years of newspaper experience to his role as editor of SD Times. He has covered a wide range of software development issues, including collaboration, change and configuration management and software testing, in his five years at the helm, and writes a regular column that examines the development industry as a whole.

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PowerTrack Tracks Bugs Within Visual Studio

BY YVONNE L. LEE

A new bug- and feature-tracking application released in October by Axosoft LLC works directly within Microsoft's Visual Studio.

The PowerTrack Visual Studio add-in organizes defects and features by project and subproject just as the company's OnTime stand-alone product does.

"When [developers] run into a defect in their application, they typically have to switch to another product, such as our

own OnTime product," said president Hamid Shojaee.

Normally, developers need to exit Visual Studio, check the status of bugs or feature additions and then return to Visual Studio to work on the project, Shojaee said.

PowerTrack can work with existing OnTime databases, maintaining pre-existing filters, workflow definitions, custom fields and users. It works within either Visual Studio 6.0 or Visual Studio .NET.

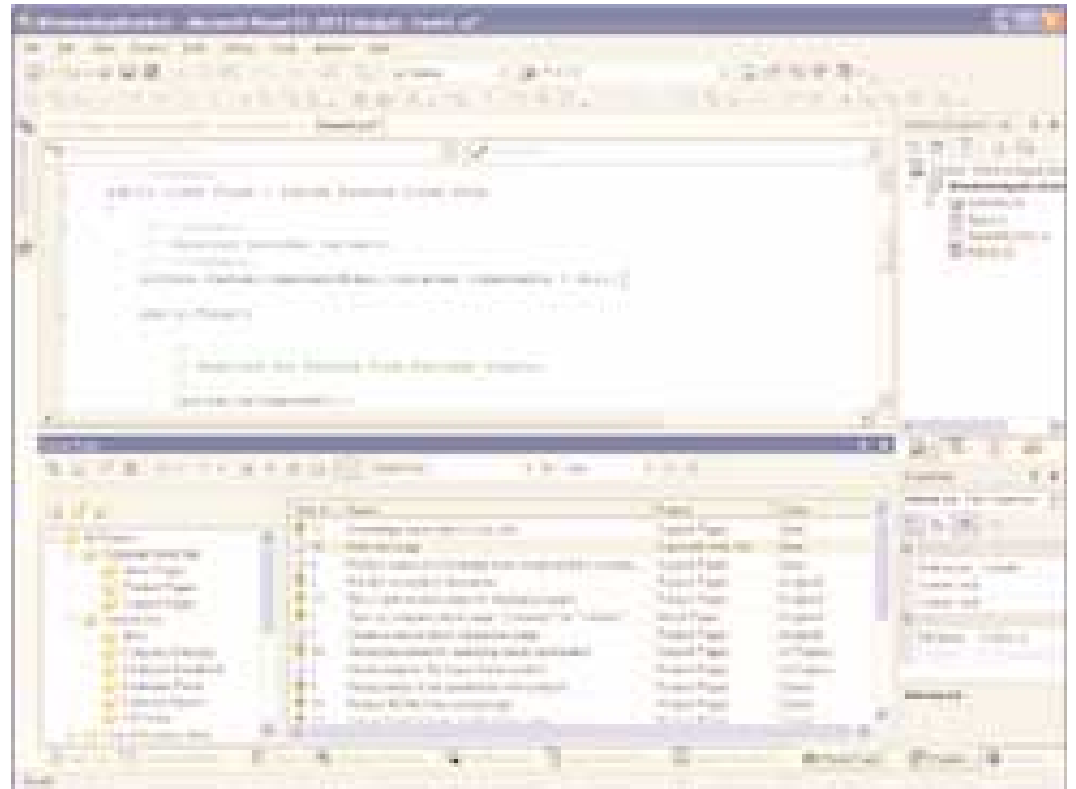
Axosoft gives away a single

developer version of PowerTrack, and organizations can purchase multiple single developer copies. However, those developers must each maintain

separate project databases, which can't be shared. A multi-user version costs US\$49 and includes unlimited project nesting. Users can view bugs and

feature updates according to the project or subproject.

PowerTrack has a built-in keyword search feature. It also can save filters of information winnowed out according to project name, status of bug or feature, individual bug name and owner. ■



PowerTrack, at bottom left, plugs into Visual Studio to track both bugs and feature requests as software is developed.

Min said. "It's not useful in itself to have all the information. You've got to be able to filter it." Previously, the software enabled organizations to perform load tests and view the information as composite. Now the information can be sorted according to individual tests or by machine.

"If you used multiple machines to load test, they were all clumped together," he said. Now, the software can emulate a virtual user and

report on the delays the application may have had at specific parts of the test, Min said. Parasoft refers to the virtual user emulation as a profile.

SOAPtest offers progress view, graph view, individual hits view, and a histogram of the load-test detailed report, all of which can be filtered by machine, profile and test. Machine, profile and test filters also have been added to the HTML report export options. ■

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BPM, Rules Updates Getting Smarter

◀ continued from page 5

COBOL copybooks, he said.

The new editions of Blaze Advisor provide the same capabilities as their Java counterpart. While they don't guide

the user through the rules creation process, they let developers create templates that make it easy for nonprogrammers to enter and update business rules, said Taylor. Blaze Adv-

isor, which starts at US\$200,000 for a typical Java or .NET project, automatically generates code, specific to each edition, without requiring the developers to translate rules into if-

then logic, he said. Support for COBOL adds \$100,000 to the cost, said Taylor, noting that the COBOL offering is sold as an extension to the .NET and Java editions.

ELIMINATING IF-THEN

Also extending its rules management tool to .NET is Pittsburgh-based Haley Systems, which last month released HaleyAuthority 5.0.

Like the previous version, 4.0, which supported C++ and Java, 5.0 leads nonprogrammers through the process of creating rules in English, prompting them to clarify rules it doesn't understand, said Haley's vice president, Tom Murray. But while 4.0 required developers to translate the rules into if-then statements before automatically generating code, 5.0, which costs US\$5,000 per seat, does not.

Murray claimed that competitors' offerings require developers to take that step. But both ILOG Inc., in Mountain View, Calif., and Fair Isaac disputed the claim. "ILOG's business rules tools do not require users to translate business rules into if-then statements," said Henry Bowers, ILOG's director of product marketing. Using ILOG's Business Action Language (BAL), users can model statements such as: "If the shopping cart value is greater than \$100 and the customer category is Gold, then apply a 15 percent discount," he said. ILOG has said earlier that it plans to offer a .NET version of its JRules Java offering later this year.

Business rules and business process management software company Pegasystems, in Cambridge, Mass., was expected to debut in early November its SmartBPM Suite. Chief among the new features of the suite, which starts at US\$100,000 per server, is a component called Process Simulator, said Alan Treffer, Pegasystems' CEO and founder. It lets business users analyze existing business processes, simulating changes, to figure out how best to improve them. For instance, a business analyst at a mortgage company could ask: "If I changed the loan approval process to require one less approval, how would that impact my service levels over the next few months?" he said. "You are essentially playing what-if with your business processes." SmartSuite also includes the company's rules management and BPM offerings. ■

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Actional's the Name, SOA's the Game

◀ continued from page 1

responsibilities are spread scattershot across different operations teams. There's no one team that's responsible for the application and no way to get visibility on everything about an application."

Addressing that problem is a modular suite of tools that Foody claims give developers the ability to develop, monitor and optimize their Web services from a single point of control, starting from the definition of and alignment with business requirements. "That means always making sure that the IT infrastructure is aligned with changing business requirements within the SOA that's in place." A compliance module monitors applications for accordance with regulatory requirements, he added.

Foody said monitoring functions also give developers situational awareness and the ability to respond. "Are there security breaches? Are there service-level problems? It's not just good enough to see problems; you need to be able to respond by blacklisting, adjusting load balancing, or having an operator take manual control to opti-

mize the cycle from requirements to fulfillment of those requirements."

Tom Ryan, former Westbridge president and CEO who takes those positions in the new company, said the addition of

Westbridge's flagship XMS, an XML firewall, gives the combined company an edge over the other dozen or so companies in the marketplace. "This will give us the broadest set of SOA enablement capabilities in

a unified platform across app servers, databases, portals, Web sites and even ESBs."

The suite also includes modules for historical and predictive analysis, Foody added. Pricing for the full suite, which

will be available for Linux, Unix and Windows servers, starts at around US\$80,000 per server processor.

Frank Burgandi, Actional's former president and CEO, remains an investor. Former Westbridge CTO Kerry Champion will stay on as Actional's chief strategy officer. ■

VA Hangs Tapestry

◀ continued from page 1

input and feedback from partners, customers and VA staff. "There's community support behind that," he said.

Also up on the Tapestry site is SourceForge Explorer for Windows, a client-side interface with a file explorer that allows users to move files and tasks around projects via click and drag—something that doesn't work well on a Web interface, Liband said.

SourceForge Explorer for Windows was built for .NET and also has been tested on Mac OS X with Novell's Mono, a project that replicates .NET on Linux. "It gives a native look and feel," Bedell said. "It's really write once, run anywhere."

The company wants Explorer to be ready to work with the next release of SourceForge, version 4.2, expected early next year. The new platform will feature a beefed-up requirements manager, greater SCM tool support and the ability to work with the Subversion version control system. ■

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News Briefs

MORE UPGRADES

< continued from page 6

The new release also supports x86 chips with 64-bit extensions (EM64T), and works with XScale processors running Windows Mobile 2003 and MontaVista Linux . . . Windward Studios Inc. is shipping **Windward Reports 3.0**, an update to its Word-based report writer. This release automates the insertion of tags into Word documents, and simplifies tag validation. It also can map fields to SQL or XML

<Windward> Reports

data sources, and adds support for being called from Java and .NET . . . Persistence Software Inc. has updated its **EdgeXtend** data access system for Java. Version 3 of the Java toolkit adds support for MySQL, as well as an object-relational mapper. The update also has a graphic modeler that works with Eclipse, and includes an API that provides visibility into the software's runtime cache . . . Relativity Technologies Inc. has added three new languages to its **Modernization Workbench**, a tool for maintaining a repository of information about existing host and client/server applications. The new languages supported by Modernization Workbench are RPG, Assembler and OpenROAD, which is a language used by Computer Associates' Ingres . . . The new release of **Code Co-Op**, a version-control system from Reliable Software, enhances the automatic dispatching mechanism used to keep project members in sync. In version 4.5 the dispatching mechanism is now able to automatically identify missing scripts and retrieve them from another project member . . . Seapine Software Inc. has updated its **TestTrack Pro** defect-tracking system. Version 7.0 provides greater flexibility in configuring the system's back-end database to use either Oracle or Microsoft's SQL Server. TestTrack Pro can now work with a company's Active Directory or LDAP system to validate user log-ins, and can link issues together in a parent/child or peer group relationship. The software costs US\$295 per named user.



PEOPLE

Boyd Pearce is the new president and COO of database vendor ANTs Software Inc.; previously he was general manager of Hyper Corp., a provider of Bluetooth qualification services. The former president and COO, **Gary Ebersole**, left the company in January, only 10 months after joining. ■

Meeting Web Services Specs

< continued from page 1

will emerge as two or more vendors decide to work on solving what they perceive as a problem. Then, the companies will submit the specification to an industry consortium to be refined by a broad spectrum of the industry.

"I think there are a couple of different stages," said Jim Marino, BEA's senior product manager for WebLogic. "Companies like ourselves, Microsoft and IBM might collaborate, but that doesn't necessarily mean there's any product direction at that point. There's an essential need for something that a spec addresses."

Supporting a Web services specification basically means that a server can interpret certain XML tags required by the specification, said Ted Farrell, architect and director of strategy for Oracle's application development tools. "The impact on the developer varies," he said. "The developer who isn't using an IDE will have new XML to learn. In the case of [a developer using] an IDE, instead of having to know the XML, you can just check a box. The tools can put it in much more of an English way."

TEACH-IN, ADD-ON, DROP-IN

Just how developers take advantage of any changed functionality, experts say, can

vary from learning to address server APIs to pressing checkbox options in an IDE.

"One of the things we've done," said Rebecca Dias, advanced Web services product manager at Microsoft, "[is] we've basically created a product called Web Services Enhancements."

WSE is an add-on to Microsoft's Visual Studio .NET and the .NET Framework that includes new Web services capabilities as new specifications become available.

"In the Microsoft world, the developer isn't so focused on the specification," Dias said. "For instance, with Web Services Enhancements, we provide tooling that says, 'Do you want to secure this communication?' You go through this graphical front end, and it creates the policy for you. That policy creates the code. They're not sitting there mired in the XML."

IBM also uses an add-on package to tackle new Web services specifications, but IBM's kit, the Emerging Technologies Toolkit (ETTK), also includes educational articles and sample code. IBM periodically adds new elements to the toolkit, which it makes available at its alphaWorks Web site.

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Can Mean Different Things

specification even before it comes out of the standards process," said Diane Jordan, manager of e-business technologies.

Even having a server that can interpret the new XML codes and tools that can appropriately generate them may still leave developers needing handholding and advice from vendors, claimed BEA's Marino.

"When we mean WebLogic supports [a specification], we deliver an implementation—that's one part of it—but we help customers get their applications up and running and make sure they're working in production. Sometimes that's overlooked because they think a spec is something easy to implement. That's not necessarily the case; there's always things that come up," he said.

THE ENDGAME: INTEROPERABILITY

SAP's vice president of NetWeaver standards, Michael Bechtauf, said corporate developers should not bother with learning the minutiae of individual Web services specifications.

"In terms of clarification of this WS-alphabet soup, developers should not be concerned with these specifications on the micro level," he said. "On this micro level, people won't care. They

care about whether there's interoperability." In that regard, it's more important that a specific application meet the guidelines set out by the Web Services Interoperability Organization's (WS-I's) basic profile than to try to adhere to individual specifications, he said.

At present, though, these specifications deal only with interoperability at the base level of SOAP and WSDL, and don't add many of the features such as security and orchestration that these second-generation services are trying to introduce.

In fact, SAP does not build compliance to individual specifications into its NetWeaver integration and application framework, but instead adheres only to the latest J2EE specification, despite the fact that SAP is helping to define several standards, including placing the still-developing WS-Addressing, WS-MetadataExchange, WS-Notification and WS-Policy on its Web site.

IBM's Jordan concurred that interoperability is the ultimate goal but said a standards-compliant server and tools were the key to that end.

"If they build it using standards-based technology, they'll know that the application they build will have greater potential for portability," she said. ■

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Morae Watches Users' Activities

Monitors keystrokes, voice, facial expressions

BY YVONNE L. LEE

TechSmith Corp. began shipping on Nov. 1 Morae, a composite software package for groups to collaboratively perform usability tests that now can record facial expressions and vocal comments.

Morae is designed for groups to observe how users operate software, and to help them make changes accordingly. Morae 1.1 adds the ability to see and hear users as they are working with software and the ability for more than one user to remotely view a session.

The previous version recorded keystrokes and mouse

movements but did not have audio and video capability.

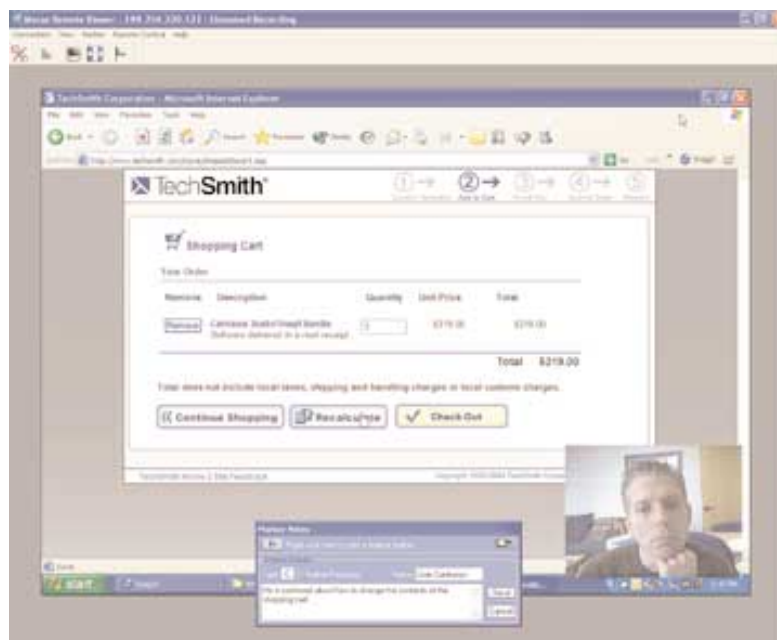
"That's always been the problem," said company spokesman Chad Wandler. "The developers and designers don't have any contact with the people who use the software, or they test it on themselves."

The Windows software consists of three parts: a recorder that captures users' activities, remote viewer software for monitoring that activity, and management software for compiling comments about the behavior. A single license costs US\$1,298 and includes a year of updates and tech support.

Additional viewer licenses are \$129 each.

Video and audio recording requires a Web camera such as Logitech's QuickCam Pro 4000, which TechSmith recommends for desktop testing, said product manager Shane Lovellette. The company also recommends Logitech's QuickCam for Notebooks Pro for recording the voice and expressions while those users are operating notebook computers.

In turn, members of the usability testing team can save



Morae's manager software can record users' expressions, at lower right.

comments regarding their observations about the users' behavior. These comments can be stored, sorted and filtered according to the testing team members' identification,

Lovellette said.

"The other thing that's new, too, with the remote viewer is you can have multiple remote viewers connected to a recorder simultaneously," he said. ■

Secure Appliances Put Bug Tracking in the Box

BY YVONNE L. LEE

Two different companies have decided that thinking inside the box is the best way to make it easier for small businesses to do bug tracking.

BugOpolis LLC and Tallán Inc. are shipping secure server appliances with bug-tracking software and the necessary operating system and Web server preinstalled. BugOpolis is shipping two models marketed toward small businesses: a US\$2,400 desktop Bugstation unit and a \$3,400 rack mountable server. Tallán is shipping a \$2,999 rack mountable device.

"It bridges the gap for people who either don't have the time or the expertise to configure it themselves," said BugOpolis president and CEO

Bonnie Walters.

According to Tallán's director of software development, Bill Moher, the Bug Appliance is marketed toward small to medium-sized companies with revenue of less than US\$200 million, which are likely to have small or no internal support organizations within their software development department.

"We're targeting folks where you may have a small in-house IT department that may not have Linux capabilities or may not have a lot of open source in your organization," he said.

The Bug Appliance came as a result of Tallán's main consulting business, he said. "Our developers found that they spent a lot of time installing and deploying the Mozilla Bugzilla product."

Bugzilla is a repository to enter bugs, assign them to technicians, reassign them and mark their status. In addition, it can produce bug-tracking reports, which can be sorted according to ID number, severity, priority, platform, owner, state and a summary of the bugs' descriptions.

Tallán has customized Bugzilla with Web-based configuration, a Web services interface to

the bug database, an update facility and a backup utility; it has also configured the software so that only authorized users can report bugs. The administrative console provides information about the system, the network, the Web server and the application server.

In addition, the company claims to have hardened access to the 1U-high server's hardware, so that it can't be accessed

directly by attaching a keyboard, and only authorized users with an ID and password cataloged in the administrative repository can connect to the machine.

BugOpolis' machines have similar hardware hardening to prevent access except by authorized users. The company offers a year of free software updates with its appliance. It also includes unlimited e-mail support and two hours of telephone support. ■

Harman International to Acquire QNX

◀ continued from page 1

brand, competing for automaker dollars with Delphi and Johnson Controls. Both those companies are QNX customers.

Despite this obvious conflict, Dodge pledged to stay faithful to all parties. "We intend to support all customers and remain in all the markets we're currently engaged in with greater access to funds. We have carte blanche to hire additional resources, and I think our customers, including those Harman might consider competitors, will find that service they receive from QNX will actually increase because we'll have more bodies available."

Harman had been licensing QNX's Neutrino real-time operating system for automotive projects, Dodge said, but had yet to

bring those projects to market. QNX software will now form the basis for all of Harman's so-called "info-tainment" systems, which include multimedia, navigation and eventually enterprise platforms. "Ultimately that is the longer-term goal, but the infrastructure has to be in place first. Automotive [companies] are looking at Web services, location-based services and a host of possibilities," all of which are waiting for the infrastructure outside the car, he said.

Harman sought to acquire QNX, Dodge asserted, for its position opposite Microsoft in the nascent automotive market. "There are really only two players, Microsoft and us, and Microsoft has much deeper pockets and a wide breadth of

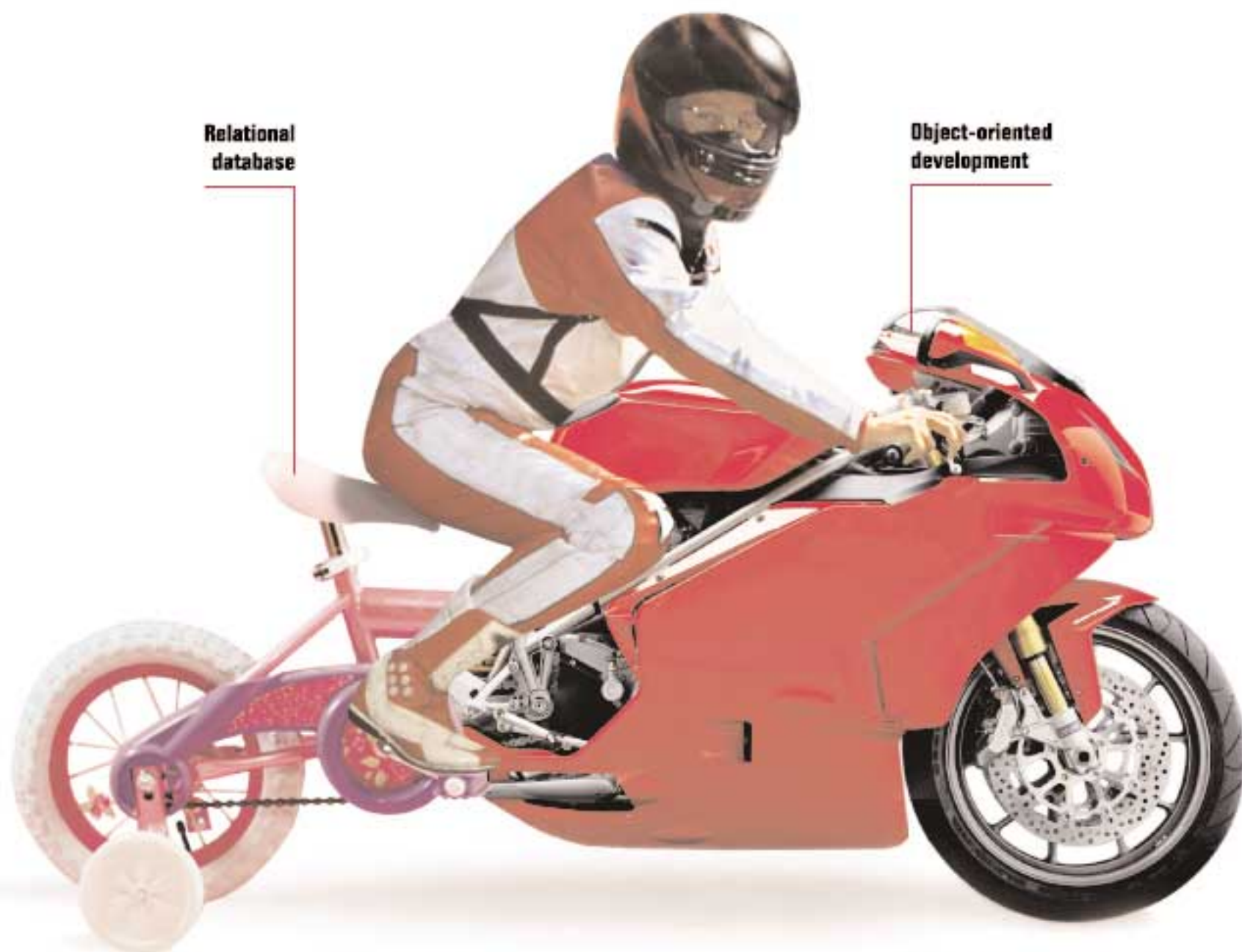
technology. Harman felt it was important to secure QNX as a viable entity that could not be taken out of the market." QNX was profitable before the acquisition, Dodge added, and "will be a source of profit for the company." ■



Without QNX, the telematics market would belong to Microsoft, believes QNX's Dodge.



Mozilla's Bugzilla tracking software, shown above, is built into BugOpolis' Bugstation and Tallán's Bug Appliance for remotely tracking the status of defects on Web, application and mail servers.



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Wind River Launches USB Probe

JTAG debugger is aware of VxWorks, ThreadX; Linux edition now in beta

BY EDWARD J. CORREIA

Wind River Systems Inc. in December is set to begin beta testing a Linux-aware version of Probe, the USB-based JTAG debugging device for its VxWorks and ThreadX real-time operating systems and its visionClick debugger released on Nov. 1.

The Linux edition will work with a forthcoming release of Workbench, the company's Eclipse-based IDE, which it also will begin beta testing next month and expects to release early next year. Pricing for visionClick and Workbench editions of Probe will start at around US\$4,000 with hardware.



Probe requires no separate power adapter; power is supplied by the USB.

According to Steve Veneman, product manager for Workbench bring-up components, the performance of USB 2.0 is the main benefit of the

new Probe, with its rating of 480 Mbits/sec, compared with the earlier parallel version's maximum of 2.5 Mbits/sec. "Higher download speeds

enable developers to perform more design iterations per day," he said.

Veneman claimed that high speed and custom firmware combine for a more efficient debugger than competitive devices such as Green Hills' SuperTrace Probe, which boasts 1GB RAM. "There isn't a lot of RAM inside the Probe. We pulled some of the RAM requirements out of the Probe itself and onto the host, and most of the [processing] is driven by the host PC. And our JTAG accelerator [firmware] allows the developer to utilize the full bandwidth of the JTAG scan chain."

For developers using VxWorks and ThreadX, Veneman said that awareness of those operating systems in the new Probe and visionClick tools will present some additional benefits, including "the ability to debug multiple devices, processes and threads in one environment. The hardware [also] has the ability to track and debug multiple devices on the scan chain at the same time."

The initial release will target several key PowerPC designs, with support for designs based on ColdFire, Intel, MIPS and additional PowerPC targets to be released later this year. ■

Visuality's PQ to Implement RPC

CIFS stack to visit more 'Network Places' with remote procedure calls so developers don't have to

BY EDWARD J. CORREIA

There goes the neighborhood; it could soon become a metropolis.

With the planned February 2005 release of Print Quick (PQ), an RPC-enabled edition of Network Quick (NQ), Visuality Systems Ltd. claims not only that developers will be able to build non-Windows-based devices that can be seen by Windows desktops, but also that those devices will be able to exchange files.

NQ is the company's implementation of the CIFS protocol stack for embedded devices.

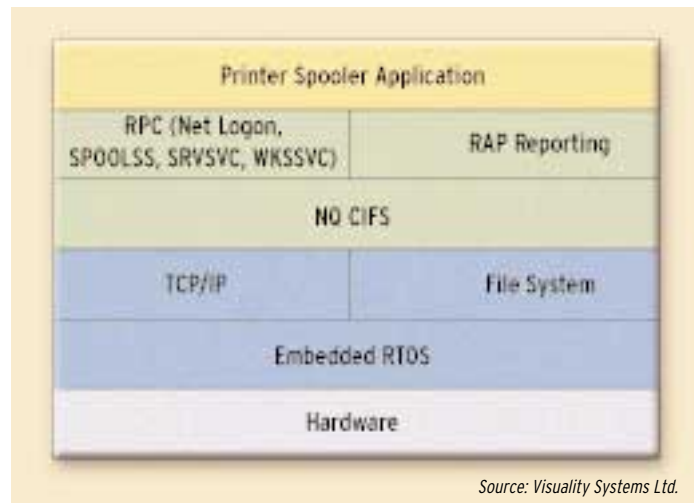
"So, for example, you could drag and drop files to the device, and you've added an upgrade within seconds," said Visuality CEO Sam Wideman. "And [because] you haven't sent an engineer to the location, you've saved thousands of dollars per year."

Wideman said the new stack will include protocols for communicating with all versions of Windows, as well as with Linux/Unix machines running the SAMBA open-source implementation of the Common Internet File System protocol stack. The PQ stack, which Wideman said adds a maximum of about 300KB to the device footprint, will be delivered as a library for Linux, ThreadX and VxWorks development environments. He claimed it will work

with all editions of VxWorks.

Igor Lerner, Visuality's research and development manager, said PQ will make devices appear to the end user just like any other network resource. "Like in Windows, you will right-click on the folder and select share from the menu." He added that the stack also will

enable developers to piggyback print- and file-sharing capabilities onto existing devices. "This is important because today if they want to implement a file or printer server, they need to buy another Windows PC. This will enable a cheap [alternative] to USB-attached printers for printer sharing on a network." ■



Source: Visuality Systems Ltd.

The Print Quick stack implements RPC for file and printer sharing.

More VME in RTLinuxPro, RTCoreBSD

FSM claims improved OS partitioning reduces code validation

BY EDWARD J. CORREIA

Real-time Linux developer FSM Labs Inc. in October released 2.1 versions of RTLinuxPro and RTCoreBSD, and claims its RTOSes now offer improved VME interface characteristics and better application reliability and debugging.

RTLinuxPro and RTCoreBSD work together with Linux and BSD Unix to offer standards-based platforms with hard real-time responsiveness.

"Real-time applications are more insulated from changes in the Linux namespace, and it's easier to find errors," claimed Victor Yodaiken, FSM CEO and co-founder. "This makes customer code more reliable



Real-time apps are now more insulated, says FSM's Yodaiken.

and enables us to move toward more validation of code for safety certification."

Such reliability require-

ments, he said, have been in increasingly large demand from customers building safety-critical applications for aerospace and defense industries, which impose strict validation requirements. "By cleaning up the partitioning, we reduce the size of the problem we have to validate."

Yodaiken claimed that RTLinuxPro and RTCoreBSD also now offer greater capabilities in the interface with VME, a decades-old hardware interconnect technology used for shared memory, interrupts and DMA data transfers. "Even though people have been saying for 20 years that it's obsolete, [VME] is still a fundamental technology in

aerospace and defense. A lot of our customers in aerospace, industrial automation and simulation have a long-term investment in VME peripherals [such as] actuators, sensors and other boards."

New VME-interface capabilities include the ability to perform real-time data transfers using real-time threads in RTLinuxPro. "We could do that in a rudimentary way before, but now there's a whole bunch of [additional] VME features we can use."

Pricing remains at US\$5,000 per developer seat plus royalties, and includes the Visual SlickEdit development tool. In addition to multiple single-, dual- and quad-processor PowerPC designs, RTLinuxPro and RTCoreBSD 2.1 now run on boards based on Amtel ARM9, Arcom Viper (XScale), Diamond PC104, Synergy MicroSystems and TI OMAP designs. ■

Sybase Has Answers for Mobile Content

New iAnywhere tools add intelligence to SMS, permit custom content delivery

BY EDWARD J. CORREIA

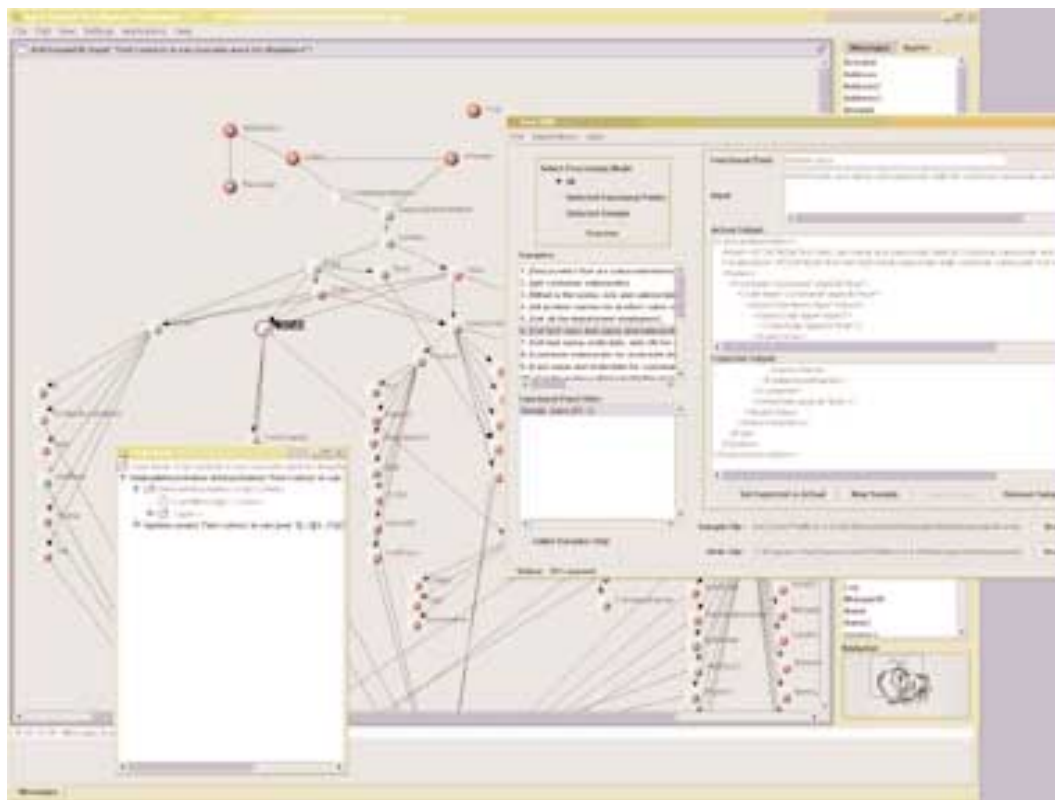
Use plain language. That's what iAnywhere Systems Inc. claims mobile users can do to drive back-end applications if they're using Answers Anywhere, middleware released by the company in late October.

Answers Anywhere, which runs on Linux, Unix and Windows servers, interprets natural-language queries inside Short Message Service messages to retrieve database information or conduct transactions. "We are enabling the user to command and control applications from SMS in their own words and their own context," said Antoine Blondeau, senior director of business development at iAnywhere, the mobile subsidiary of Sybase Inc.

Formerly known as Dejima Direct, the US\$100-per-user solution was inherited when Sybase acquired Dejima Inc. in April. Blondeau, former CEO at Dejima, described how Answers Anywhere can be used to drive an online phone directory. "A user could type a simple SMS message saying, 'Chinese restaurant near here,' and the application would respond with an address and phone number." No device software is required other than the SMS client, he said. "As long as you have a connection, you [have] an interface into server-side applications."

Available now, Answers Anywhere includes what Blondeau described as a graphical environment that developers use to map functions of their applications to a hierarchy of objects, called agents. A financial application, he said, for example, might have one agent for stocks, another for prices and perhaps another for new issues. "It's a semantic construction tool; you relate those agents to one another depending on their respective functionality and roles within the application."

Relationships between agents become the grammar, to which a layer of precise language is added, he explained. "This includes nouns, synonyms and qualifiers that the application understands and interprets as context around the input." A typical enterprise installation costs between \$10,000 and \$100,000; a revenue-sharing



A mapping environment in Answers Anywhere creates agents that interpret incoming text messages, and the relationships between agents become the grammar. Nouns, synonyms and qualifiers are added to create context.

pricing model is available to network operators. "Most of the time and hard work is spent developing not the intelligence, but the back-end integration."

Blondeau claimed that iAnywhere's solution is different

from other SMS-to-back-end systems—popular in Europe—because it does away with keywords. "Operators in Europe have had to publish lists of hundreds of keywords in newspapers and magazines to ensure that customers would interact with

their applications. We take those out entirely. People can interact in their own words without having to learn anything."

HELLO, OPERATOR

Sybase also in October introduced mFolio, a tool aimed at

network operators that allows them and their subscribers to customize Web content for delivery to Microsoft Pocket PC-based cell phones and other wireless devices.

According to Omkar Bhongir, Sybase's senior director of OEM marketing and product management, the tool permits Web code to be tailored to a specific device without transcoding.

"This helps deliver personalized content to handheld devices, and provides users with the ability to capture data formatted for the device, enhancing the mobile browsing experience from the consumer and business sides," he said.

Bhongir said similar functionality is available for the enterprise in Sybase's Unwired Accelerator, released in early October.

Sybase also released Pocket-Builder 2.0, the latest version of its rapid application development environment for targeting Pocket PC, that now supports GPS, barcode scanners and digital cameras. All of the company's recent news was timed to coincide with last month's CTIA Wireless conference in San Francisco. ■

Zeosoft to Rev ZeoSphere XR Suite

Version 3.0 tweaks data model, builds ad hoc networks through self-registration

BY EDWARD J. CORREIA

Just weeks after releasing Mobile AppBuilder 1.2, an entry-level version of its codeless mobile database development environment, Zeosoft Technology Group Inc. has revealed to SD Times that in December it will complete work on ZeoSphere XR Suite 3.0, a major revision of its Java-based mobile application server and development platform.

According to Zeosoft president and CEO Mike Huestis, what app servers do for applications and LAN-connected computers, ZeoSphere does for applications and cell phones, smart phones and other wireless handheld devices.

"ZeoSphere XR is equivalent to [IBM's] WebSphere or BEA's WebLogic," but makes every device a server, Huestis said. ZeoSphere is being used

to simplify the creation of ad hoc networks of handheld devices, such as those used by emergency workers, he said. "Suppose you're building your own Amber Alert system to help locate missing children. You never really know where all your [emergency] people that are holding devices are going to be. They might be in a Starbucks on an 802.11 LAN, and can't [otherwise] have something pushed to them."

ZeoSphere XR Suite 3.0 costs US\$5,000 and includes a Java development environment and application server runtime. Improvements to the development tools include wizards for services and JavaBeans, which he said simplify the incorporation of naming and relay services as an application is developed. "These are useful for peer-to-peer [communication] behind

firewalls and hot deployment of networks where you need a single, secure network management point. With a naming service point, you don't have to individually manage every IP address on every device."

ZeoSphere's relay service solves that problem, Huestis claimed. "Devices running ZeoSphere sign in with the closest naming service, receive a network map and join the peer group automatically. If a member happens to be behind a firewall, it goes through the relay service."

According to Huestis, version 3.0 will include a new data model and will give devices the ability to self-register with the naming service and read the characteristics of the device for improved screen rendering. "Developers can have device-dependent attributes in a data-

base so that when a device registers, the database can change the characteristics of the data. For instance, if you're using a Nextel phone, it won't send you a picture; it will send an SMS message."

Huestis said that for most enterprises looking simply to extend existing Oracle, Microsoft SQL Server or Access databases to mobile devices, Mobile AppBuilder would be sufficient as a means for developers, business analysts and nontechnical staff to develop front ends with no coding. "You point and click, and in five minutes you have a complete application with network, database and security baked in." The only device-side requirement is a Java VM; the entry-level environment costs \$1,400, including two runtimes. Additional runtimes cost \$270 per device. ■

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Security must be defended on two fronts -- at the perimeter to the system and in the code that drives the application. Perimeter security is usually handled by an appointed security team outside of the development group. However, developers can and should be responsible for preventing internal software vulnerabilities.

Three of the most commonly-exploited internal software security vulnerabilities are dangerously-constructed SQL statements, buffer overflows, and uncaught runtime exceptions. The traditional industry approach to compensate for these internal weaknesses is to build the complete application, then later perform a sort of "monkey testing" intended to simulate hacker actions. Testers attempt to design and execute a large number and variety of tests which pound on the application in as many different ways as possible -- all in hopes that these tests will reveal a security vulnerability, which can then be remedied prior to deployment. If fastidiously applied, this strategy can expose many critical security vulnerabilities. However, such a thorough application of this strategy is difficult and time-consuming.

An easier way to protect code from common attacks is to supplement traditional internal security testing and perimeter security testing with a concerted effort to prevent internal security vulnerabilities as the code is being written. Many standard Parasoft AEP Methodology practices--such as coding standard analysis, unit testing, and integration testing--allow you to start improving your code's security before you write test cases specifically for security verification. Apply the recommended AEP practices throughout the software development lifecycle, and it's possible to remove many security vulnerabilities, as well as improve the overall code quality and reliability. It also allows your security team to focus its perimeter testing efforts, which can then concentrate on verifying if and how the perimeter may be breached without having to worry about what happens if that initial breach occurs.

— Adam Kolawa, Ph.D.
Chairman/CEO of Parasoft

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Software FX began shipping Pocket Chart FX for the .NET Compact Framework this month. Priced at a reasonable \$599, Pocket Chart FX includes most the robust features offered in the full Chart FX for .NET, leaving out only those that are not applicable due to device or platform limitations. Pocket Chart FX is also included at no extra charge to the full version of Chart FX for .NET, priced at \$2,699, that includes both Windows Forms and Web Forms functionality.

Pocket Chart FX for .NET is a charting component for rapidly developing applications that extend enterprise data visualization and analysis capabilities to mobile devices. With Visual Studio .NET and Chart FX for .NET, developers can quickly build powerful graphical applications that connect to mission critical data and run on Smart Devices.

"With Pocket Chart FX you can expect a component with the right feature set, portability and memory footprint for your mobile applications."

Pocket Chart FX for .NET provides a design-time experience assembly compiled against the .NET Framework that integrates seamlessly into Visual Studio .NET, allowing you to setup chart attributes and properties easily. This consistency ensures that there are no features in the design time version of the control that will not be available in the run-time version limited to work in the .NET Compact Framework and both assemblies adhere to the "small is good" principle for mobile applications.

As a GDI+ intensive component, Chart FX has been developed with coding practices that help improve screen redraw. This is particularly important when considering mobile applications where memory, CPU speed, and other resources are at a premium. Considering the small screen size of PocketPCs, they've made sure charts display well in a portrait rather than in a landscape

orientation and even the default Chart FX color palette has been changed to improve legibility.

Perhaps one of the main advantages Chart FX provides is a consistent API and Object model across all of the platforms

supported in their product line, including .NET, COM and Java. This means, developers can leverage their knowledge in a particular Chart FX product to move or port an application to a completely different platform.

As opposed to other vendors which are now providing first-generation offerings of their .NET Compact Framework products, Software FX has been building and offering charting components for Microsoft's mobile

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C# Gets Sharper

Generics, partial types highlight enhancements to the programming language, but users say it's still almost equal to Visual Basic .NET

BY JENNIFER DEJONG

Just shy of its third birthday, C# is growing up.

As developers experiment with early versions of Visual C# 2005, which Microsoft Corp. has promised to deliver as part of Visual Studio 2005 next year, they are talking about forthcoming features of the language, including generics, partial types, iterators and anonymous methods. They are also weighing in on the more philosophical issues, such as how C# differs from its sibling Visual Basic .NET, how it compares

with its modern-language counterpart Java, and whether differences among .NET languages even matter in a development environment where the framework is everything.



"C# and VB.NET are so similar that you can't pull a decisive technical argument why one is better than the other. It's all about the framework—all the .NET languages compile to the same thing."

It's the framework that's important, not the language, says Desaware's Appleman.

said Dan Appleman, president of San Jose-based component vendor Desaware Inc. and author of the forthcoming e-book, "VB.NET or C#: Which to Choose," which compares the 2005 versions of the languages. While VB developers opt for VB.NET, and C++ and Java developers gravitate toward C#, the decision is driven more by psychology than technology, said Appleman. "C++ programmers have had to know a lot more than VB programmers. The bar is much higher. They choose C# because they are too embarrassed to use VB," he said. Patrick Hynds, chief technology officer at CriticalSites Inc., agreed. "If a product is written in VB, they will think it is a Tin-

kertoy," he said, referring to the ISV customers that the Burlington, Mass.-based consulting company serves. "But C# and VB.NET are virtually equal."

WHAT'S NEW?

Chief among the features promised for Visual C# 2005 is generics, which enables type safety by allowing the developer to define, for example, a class by the type of data it stores and manipulates, said Microsoft's Daniel Fernandez, product manager for C#. "With generics, you can create a list of employees and know that it includes only employees," said Piper Keames, lead architect for software ven-

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At 3, C# Gets Sharper

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dor VCG Inc., in Roswell, Georgia. The result is greater predictability and performance, said the former Java programmer who now uses C#. The

forthcoming version of Java, code-named Tiger, also promises support for generics.

Other new features in Visual C# 2005 are partial types, which let the developer split up

large code files into two and combine them at runtime into one class; anonymous methods, which enable the developer to write code "in line" without explicitly declaring the method;

and iterators, which make it easy for a type to specify how the "foreach" statement will iterate over its elements, said Fernandez. A beta version of VS 2005, which includes these

features, is available at lab.msdn.microsoft.com/vs2005. Developers have had access to forthcoming C# features since October 2003, when Microsoft first demonstrated them at its Professional Developers Conference, he noted.

Much of what's new for C# developers is not in the language itself, but in the framework, said Don Awalt, CEO of RDA Corp., a custom application development company in Baltimore that does most of its projects in .NET. That is, in fact, the point: In .NET, the language and the



If a product is written in VB, ISVs tend to think of it as a 'Tinkertoy,' says CriticalSite's Hynds.

development environment are one. "It's difficult to uncouple the two," said Awalt.

VS 2005 will be personalized to suit a range of needs, based on roles, such as the C# developer, said Fernandez. "The C# developer spends a lot of [his] time writing code in the editor, so we are focused on making that process more productive." By contrast, the experience for VB.NET developers using VS 2005 is geared to "writing as little code as possible," he said. (See sidebar, "C# and VB.NET: What's the Difference?" page 34.)

An IntelliSense feature known as expansions aims to improve productivity of C# developers by anticipating what they are trying to accomplish and providing templates to automate the process. "When you type in "foreach," [for example,] a template pops up and guides you through the process," said Fernandez. That saves less experienced developers from having to know how the "foreach" statement works and lets skilled developers complete routine tasks faster. "They get sick of doing the same old thing."

Another example is refactoring, which let developers globally modify code to improve an application's structure. For instance, the "rename" refactor-

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SHARPER C#

◀ continued from page 32

ing lets developers change the name of a class known as "books" to "products," said Fernandez. "We use the compiler to [determine] where 'books' was used," ensuring that occurrences in different namespaces don't conflict, he said.

"If we had had that tool, our job would have been 50 percent easier," said Jonathan Cogley, a .NET architect. He worked with ARPC, a consulting firm in Washington D.C., to write a claims processing application in C# 2003. "We had to rip out the code, put it somewhere else and edit it by hand," he said, referring to the refactoring process. It was so tedious, "we held off on some refactorings," he added. VS 2005 is expected to provide seven refactorings for C# developers, said Fernandez, including "extract method," "encapsulate field" and "extract interface," whereas it will offer only one refactoring—"rename"—for VB .NET programmers. "A lot of C# users are former Java programmers. They are used to refactoring," he said.

JUST LIKE JAVA?

It's no secret that Microsoft was focused on Java programmers, not just the C++ developers



Developers have had access to the new C# features since October 2003, notes Microsoft's Fernandez.

already in its camp, when it unveiled C# in February 2002 as part of the .NET Framework. "To me and my peers, C# was an evolution of Java, not C++," said VCG's Keairnes, referring to the 2002 release. His team, armed with both skill sets, moved to C# a few years ago when VCG rearchitected in .NET its StaffSuite software.

"It was an easy transition coming from Java, but the C++ developers were a little uneasy about the move," said Keairnes. C# has its roots in Java, in terms of the runtime environment

and concepts such as garbage collection and value types, he said. "It had things that Java programmers want, but [at the time] the Java Community Process hadn't gotten around to yet." By contrast, C++ code is difficult to write, said Bob Flanners, a senior systems architect who worked with ARPC. "You

had to fight with it. You were dealing with Windows. You were dealing with COM," he said. "C# is the first object-oriented platform from Microsoft that is readily accessible."

While the syntax of Java and C# are similar, Java isn't just a language, it's also an operating framework, and that's where

the learning curve lies, said Roger Jack, president and co-founder of Elegance Technologies Inc., in Philadelphia, which sells a Visual Studio add-in that converts VB.NET code to C#. Even though Java has since caught up in terms of language features, because of the framework surrounding it, C# is easi-

er to use, said Chris Keene, CEO of San Mateo, Calif.-based Persistence Software Inc., which sells data access, caching and tuning tools for Java, C++ and C#. "When I'm doing Java programming, who can help me? Only people who know the ins and outs of the

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C# and VB.NET: What's the Difference?

As languages move closer, developers ask if Microsoft really needs both

BY JENNIFER DEJONG

As Microsoft Corp. readies its two core .NET languages for Visual Studio 2005, C# is getting easier to use and Visual Basic

.NET is becoming more powerful. And as the two converge, some developers are asking whether the company that gave rise in the early 1990s to an

army of entry-level programmers still offers a language that anyone can use.

"Microsoft no longer has a language that anyone can program

in, and that's a problem," said Desaware Inc. president Dan Appleman. "Visual Basic was easy because it drew a [line]. It said: 'You can do all these things with-

out going into the API.'" But that's not the case with VB.NET, users said. "VB.NET has lost some of its allure in terms of rapid prototyping and ease of learning," added Elegance Technologies Inc. president Roger Jack. "I'm not sure why we really need [both] languages anymore. There is really no advantage of one over the other."

Microsoft acknowledged that the 2005 versions of C# and VB.NET share features, but said that the two languages are differentiated in terms of programming styles. C# aims to make developers more productive, while VB.NET 2005 is all about writing as little code as possible. To meet that goal, VB.NET 2005 is expected to offer a new feature known as My, said Microsoft's Jay Roxe, product manager for Visual Basic.

Essentially a speed-dial into the .NET Framework, My's classes provide shortcuts that



Microsoft doesn't see VB.NET and C# as serving two different levels of programming skills, says Roxe.

allow the developer to perform functions, such as reading information from a file, without having to write the API. "What could take six to 12 lines of code in C# requires only one line in VB.NET," he said, noting that C# doesn't support My.

Also new is a code snippet feature that automatically inserts prewritten code when the developer selects from a list of tasks, such as "copy a file" or "parse a file path;" and an auto-correct feature, which pinpoints errors and offers advice on how to fix them, said Roxe. "For example, if you create a property with both a get method and a set method, and then specify it as 'read only,' VB.NET will prompt you to

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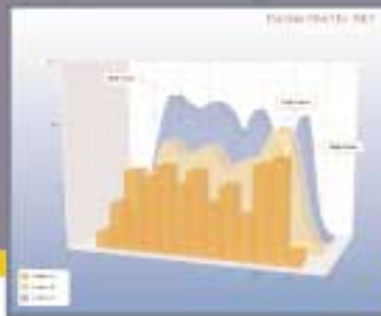
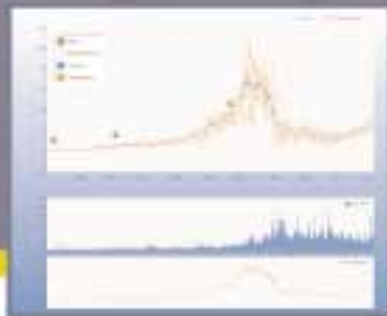
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JVM," he said. "Is there a way to let business analysts do part of the job? Microsoft and C# are poised to do that." In .NET,



Because of the framework surrounding Java, it's harder to use than C#, says Persistence's Keene.

modules can work together without the need to write connection code, he said.

CATCHING UP ON TOOLS

C# may be easier than Java, but the newer language lacks the wealth of third-party tools that surround Java, said VCG's Keairnes. "We were used to Ant," he said, referring to the open-source build tool from the

DIFFERENCE

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'get rid of set method or change the read-only status.'

Despite VB.NET's ease-of-use features, most developers see little differentiation between the two languages. But not everyone believes that matters. "It's really about choice," said RDA Corp. CEO Don Awalt. "I don't know if differentiation is necessary." In reality, Microsoft may not need to offer an entry-level language, said Critical-Sites Inc. CTO Patrick Hynds. Former VB programmers can use VB.NET the same way they used VB. It may not be a "best practices" approach to the language, he said, "but when you're writing a single-user application, how much bad code can you write?"

Asked whether Microsoft sees VB.NET and C# as serving two different levels of programming skills, Rixe said: "No, I wouldn't say that. Advanced people use VB.NET and some beginners use C#." VB.NET is about productivity and RAD, said Appleman. "But that could be said of C#, too. It's RAD and it's productive." ■

Apache Software Foundation. At the time Keairnes needed it, NAnt, an open-source build tool for .NET, didn't exist. "In terms of the language, the Java-to-C# move was an upgrade, but in terms of the tools, it was a downgrade because it was new," he said.

With Visual Studio 2005

Team System, Microsoft plans to offer C# developers some of those tools in .NET, including Microsoft's own build tool, MS-Build, as well as tools for code coverage, unit testing and modeling. The code coverage tool will use red and green to designate which parts of the code are being tested, and which are not,

noted Cogley. In the same vein, change tracking will use yellow and green to indicate which areas of code have been modified, he said. "It's a wonderful step forward." But he and Flanders, partners on the ARPC project, are skeptical about the Visual Class Designer, the graphical modeling tool promised for

Team System. "How well will it work with 100 or so classes? You have to zoom out to see [all of them]," said Cogley.

However C# evolves, one thing is clear, said Appleman: "The language is not nearly as important as it used to be. The framework is everything. The language is nothing." ■



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EDITORIALS

SOA: The New Bandwagon

If 2000 was the year of XML, and 2002 the year of Web services, then 2004 has ushered in the era of service-oriented architectures. Seemingly every software development tools and platform vendor is presenting an SOA strategy, an SOA-enabled platform or a series of tools for building or managing services.

This is good. SOAs truly do represent the next evolutionary step for Web services, presenting a clean, loosely coupled approach toward systems integration.

Many previous integration approaches, which were designed to be point-to-point or focused on specific middleware systems, were secure and efficient but also brittle and often expensive. Plain old Web services, on the other hand, were neither brittle nor expensive, but also weren't particularly secure or efficient. The broader concept of service-enabling new and existing systems, and then integrating them by using a network-based management system based on standardized orchestration and workflow, promises to bring together the best of both worlds.

Are SOAs the be-all and end-all? Not yet, and possibly not ever. There are still many standards-related issues to be resolved; any SOA-based solution that's built on proprietary implementations of Web services or process management might seem expedient in the short term, but in the long term will be costly to maintain and grow. And while SOAs seem to be more broadly accessible and open-ended than traditional message-bus integration systems, it's yet to be proven if their loosely coupled architecture can provide the performance and reliability of those more expensive integration approaches.

The big vendors and the big analyst firms are pushing SOAs as the solution to every problem, and as the recommended architectural approach for future applications development. While we're also bullish on the potential for SOAs, we encourage architects and development teams to move cautiously.

Remember that XML and Web services morphed significantly from their initial concepts and use cases, and today are deployed much differently than the pundits initially predicted. If the past is any guide to the future, SOAs will also mature significantly over the next few years. Unless there's a compelling need for haste, there's little reason to bet your company's IT future on this new bandwagon—at least, not yet.

The Beginning Of RTOS Consolidation?

QNX Software Systems Ltd., one of the grand old players in the real-time operating system market, has been purchased by Harman International Industries Inc., an automotive and audio technologies company. This makes sense for Harman, which is a major consumer of QNX's products. But what does this mean for the RTOS industry?

Certainly, traditional RTOS makers are under assault as never before, namely by Linux, and must adapt to survive. Some, like Wind River, are embracing Linux. Others, like Green Hills, are attacking. Still others, like QNX, are being acquired by companies outside the field, and may end up being niche players—in this case, in automotive.

If this is the start of a trend, then the traditional RTOS market will never be the same again. ■

Easily Accessible Web Services Networks Are Key

In the coming months and years, Web services will transform the IT business landscape. Once the many Web services standards are vetted and sorted out, Web services will become widely accepted, and the number of available Web services capabilities will grow from the thousands to the millions. At that time, the number of development potentials that one could combine will be practically infinite, and Web services will have reached their greatest potential.

But for this to happen, companies will need an easy, organized method of locating a particular Web service capability with lightning speed. Typing a URL and logging into a directory somewhere won't do. Instead, capabilities must be embedded deeply and consistently throughout a wide variety of visual development environments.

Such easily accessible Web services networks are an important foundational element.

Over the years, the public UDDI network, with all of its openness, has been turned into an accumulation of fake, non-working or test Web services

publications. Potential customers who search the network find it difficult to distinguish between working and nonworking Web service capabilities and as a result quickly become frustrated.

Meanwhile, trust concerns related to the publication of WSDL interfaces or other data for programmatic queries have dissuaded many organizations from using the network as it was originally envisioned. Private networks that have adopted the UDDI specification alleviate these trust-related concerns, but they generally don't participate with other networks, and the opportunities that a truly open and connected network can provide are lost.

As it becomes apparent to companies that the success of their Web services projects will depend on having the broadest and most persistent exposure of their capabilities possible, market demand for an open, trusted and accessible Web services network will arise.

Easy availability of abundant Web services will let companies move away from time-consum-

ing software code writing. Software engineers will still be required for legacy technology environments, but eventually executives will begin to see the business value of moving toward IT models that use speedier, less-technical visual procedures

Richard Stevens
Guest View

for developing technical products and services. The majority of time and energy spent will be focused on creative development and the human aspects of business relationships.

In the next decade, markets will begin to shift around this new paradigm. Opportunities for software engineers who possess business management skills will increase as their traditional roles are replaced by business analysts and business managers. New opportunities will present themselves as more and more executives begin to see that it's their people assets, not complex technology environments, that give their companies a competitive edge in providing the very best products and services. ■

Richard Stevens is a senior analyst at Capient Inc. specializing in the Web services industry.

Is It OK to Distribute Licensed Software to Co-Workers Who Do Not Have a License?

Nearly a quarter of professionals surveyed believe that at least some of the software in use in their workplace is illegal, according to Ipsos North America, a global research and survey company based in Washington, D.C. The question was asked of 1,500 people in the U.S. from the fields of accounting, architecture, engineering, financial services and graphic arts.

More surprisingly, 1 in 4 people in companies with established anti-piracy policies in place thinks it's OK to copy software to reduce costs or increase profits, and about 40 percent of those in companies without such policies feel that way.

Ironically, the study also showed that 89 percent of respondents said that software piracy is "a risk no business can afford to take" and that 79 percent said they would not work for companies that used unlicensed software.

About US\$6.5 billion was lost to software piracy in 2003, according to the Business Software Alliance, a vendor consortium that aggressively prosecutes corporate license violations.



Reading About Design Patterns

Good software must be designed before it's built. Code that's written without the benefit of design takes two to three times longer to write than necessary, and is usually considerably more buggy as well. This isn't to say that all of the design for a large program must be complete before you write a line of code—the agile methodologies all depend on an incremental design process that parallels development.

But learning design is tough. It takes as long to learn to design well as it does to learn to code well; and the subject is, if anything, more difficult. Simply working with code libraries, or mastering the design of a couple of large systems, teaches you almost nothing about design itself. To make matters worse, it's not really possible to write a single book that covers the entire subject of software design. It's just too large a subject.

One essential topic in the design curriculum is design patterns. The notion of a design pattern is that certain patterns—systems of similar solutions to similar problems—emerge when you look at a lot of code. Good programmers who write quality code tend to gravitate to similar solutions to common problems. Once you recognize a “pattern” in these solutions, you can catalog the pattern. If you carry around

such a catalog in your head (and you really need to know the patterns that well to apply them effectively), then you can apply these known-to-be-good solutions to your own programming problems right off the bat.

The result is better quality code that goes together faster. To my mind, design patterns are as central to the profession of programming as algorithms, data structures and the programming languages themselves. You're not a true professional unless you know them cold.

Unfortunately, design patterns are a subject where the can't-learn-it-from-a-book situation has been particularly pronounced. Most books on design patterns, including the original Gang of Four book—“Design Patterns,” by Erich Gamma, Richard Helm, Ralph Johnson and John Vlissides, published in 1995—take a catalog approach to the subject. The patterns are presented in isolation, one at a time. That never happens in the real world where they're all jumbled together.

The catalog approach leads you to believe that a pattern has a specific structure, representable with a single UML diagram, and that there's only one “correct” implementation of

the pattern. None of these beliefs is true. You can't cut and paste a pattern. More to the point, unless you're an experienced programmer who has already stumbled on the patterns the hard way, the catalog-style books tend to be incomprehensible.

To solve this problem, I'd like to bring two brand-new books to your attention. The common thread in these books is that they're centered on code, not on an academic taxonomy.

The first book is Joshua Kerievsky's “Refactoring to Patterns,” published in August. Kerievsky teaches patterns by showing you how they can be applied to existing, suboptimal Java code. That is, he starts out with programs that are essentially unstructured, and shows you how to improve the quality of the programs (to refactor them) by rewriting them in terms of the Gang of Four patterns.

He identifies 13 bad “smells” in code (duplicate code, too-large classes, too many switch statements, etc.). He then explains how to apply specific patterns to fix the problem, taking you step by step through the refactoring process. Kerievsky's approach is eminently practical and solidly grounded in real

work that all of us have to do at one point or another, which is to make bad code better so that it can be maintained.

The second book of interest, I humbly submit, is the modestly named “Holub on Patterns: Learning Design Patterns by Looking at Code,” which came out in September. My approach also centers around real programs, not artificial examples.

The book teaches patterns by analyzing two nontrivial programs: implementations of Conway's “Game of Life,” and also an embedded SQL interpreter with a JDBC wrapper. The two programs together show you at least one example of every one of the Gang of Four patterns. You'll see the patterns actually applied in context. More to the point, you'll see how the patterns interact and complement one another—something that you'll never see in a catalog.

I've set up a design patterns page at www.holub.com/goodies/patterns, which has links to useful patterns sites as well as a design patterns reading list. (You also can get the code from the book from that page.)

Knowing design patterns is an essential part of being a good programmer, and these two books, grounded in real code as they are, should help you understand patterns thoroughly. ■

Allen Holub is an architect, consultant and instructor in C/C++, Java and OO Design. Reach him at www.holub.com.



Java Watch

Allen Holub

Letters to the Editor

LONG, STRANGE TRIP

My initial reaction to Andrew Binstock's column [“The Unfaithful Spouse,” Oct. 15, page 30, or at www.sdtimes.com/cols/integrationwatch_112.htm], was: Yes, Yes! It reminded me of this page by an erstwhile user of Microsoft technology for a “simple” PC app: www.fourmilab.ch/hackdiet/palm, which that author nicely summarized in 1996 into this: www.fourmilab.ch/documents/top10.html, “The Top 10 Reasons Eternal Damnation Is Better than Windows Software Development.”

But my warm glow of feeling good from reading this SD Times article was short-lived. I found myself recollecting the long, strange trip from SunView to whatever the heck Sun pushes today as the way to program

for Suns. And I got to wondering if the supporter of “top” would agree that the APIs of Linux have been a model of long-term stability. And I remembered the uncomfortable changes from release to release of the runtime libraries for C++ that Sun re-marketed under the Sun name. And I could hardly put into words the changes that HP has put their OS users through over the years. (Heck, I can't even remember now if HP started out sort of BSD and was heading for sort of System V? Or was it the other way around?)

Now Mr. Binstock is praising Linux and Java for the long haul, not HP nor Sun (Sun!=Java). Am I being too harsh on Linux in pointing at a program like “top” that has an unusually intimate relationship to the kernel?

Were all those CIOs misled by crafty marketing, or are there sound arguments that account for the fine mess the corporate world finds itself in today, software-wise?

Anyone who doesn't think there's a mess, I suspect, hasn't been reading nbugtraq, a mailing list that I commend to their attention.

R. Drew Davis

PREACHING PERFORMANCE

In your report [“Think Like a Customer, Use Your Stopwatch,” Oct. 15, page 26, or at www.sdtimes.com/news/112/special1.htm], what you are really talking about is writing high-quality, efficient and fast code. I have been preaching that for over 20 years, and practicing what I preach. Typically, just by

bothering to do it, I have generally been able to reduce program size and speed processing by about 30 percent. On a couple of occasions, I've reduced runtime, not program size (wouldn't that be great?), by about 98 percent.

Don Purdy

CORRECTIONS

VistaDB was mischaracterized in the Oct. 15 News Briefs section. According to Vista Software, it's a new relational database for .NET designed as an alternative to Jet/Access and MSDE.

Sun Microsystems Inc. engineer Jon Bosak's name was misspelled in a story in the Nov. 1 issue.

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Out of Sight, Out of a Job

The decades-long expectation of full employment for programmers is gone. The business press knows that offshore competition for programming jobs has exploded in the past few years. Within the trade, we also know that the competition takes place at all levels: The business press emphasizes the multimillion dollar projects, but as someone who picks up small jobs via Craig's List, every time I've talked to a hiring manager in the past two years, they've received contacts from offshore concerns. Within the trade, we also know the absurdity of the platitudes offered to the displaced: Re-educate yourself, move up the value chain, sleep well in the knowledge that total global wealth is maximized...

I want to slap those people. The sheer gall of a person whose idea of a complex abstraction is a balance sheet dismissing the knowledge of a professional programmer as an investment no more valuable than a youthful enthusiasm for button-sewing! Go to community college and learn...what exactly? The A-B-Cs of Excel? Beginning Photography?

Programmers have the ill fortune of being passionate about and trained in a discipline that is perceived as both intractable and frictionless: "We're frustrated by the quality of our internal soft-

ware; how much worse can this much-cheaper offshore team be?" You and I might know that the answer is: "Quite a bit worse, because these offshore eternal-death-march teams often skimp on the nonfunctional requirements that drive maintenance costs, which after all account for the large majority of total cost." But that's just our ignorance and fear talking; once we've taken an "Introduction to Calligraphy" course, enlightenment will dawn.

As for moving up the value chain, let me tell you something: I've been up the value chain and I don't care for it. Basically, as you move into executive ranks, it's all about selling and controlling costs. Surely there must be a role in our economy for those who do and not just for those who exhort others to do. And surely, *surely*, future entrepreneurs and great businesspeople will come from the countries where the work is done, not in a country whose "comparative advantage" is reduced to making snazzy PowerPoint presentations.

It should go without saying, but it doesn't, that Americans have no inherent right to high wages. To those reading this who program for \$7 an hour and are

doing well for their families thereby, I say, "Good for you." (I might also say, "Enjoy it while you can, because there are bright kids growing up in countries that are poorer than yours," but that might just sound like sour grapes.)

Windows & .NET Watch



Larry O'Brien

We have to face that there are two types of American programmers who are doomed to extinction. First, the bad ones. Traditionally, there have been more exceptionally bad programmers than exceptionally good ones. It's well known that there is something like an order-of-magnitude gap in productivity between the very best programmers and the very worst, but it's less known that the distribution of talent is quite asymmetrical, with a long "tail" toward the less-than-competent. The untalented have long survived by coasting in larger teams and being the "only game in town" for smaller concerns. These are exactly the scenarios that the offshore shops already have firmly in their sights and where the "How much worse could offshoring be?" seed is most likely to find fertile soil.

As the "tail" of unproductive-but-employed programmers is chopped off, the productivity demanded of an em-

ployed programmer is going to increase dramatically. Programmers complacent in their skills and tools because they've met programmers who are less productive will quickly find themselves on the edge of the cliff.

While it's hard to lament the loss of the incompetent, the other type of programmer that is doomed is the developer with poor social skills. This is a dramatic and regrettable change: Software development has traditionally been a haven for the eccentric and socially awkward. But being the quiet guy in the cave is no longer tenable. The great advantage that local resources have over distant ones is presence: Face-to-face meetings and talks remain vastly more productive than phone calls, and phone calls are vastly more productive than instant messages, or, worst-of-all, e-mail conversations. Yes, e-mail can have high signal-to-noise ratio and, yes, "time-shifting" conversations can allow large blocks of productive time.

But the key to staying employed is maintaining the perception that you are an essential part of the process by which value is rapidly delivered. Your code may be the vessel that delivers that value, but your involvement with others is the way that you stay associated with that value. Out of sight, out of mind, out of a job. ■

Larry O'Brien is a technology consultant and analyst, and the founding editor of Software Development Magazine.

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Bud Robertson, CFO

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Open-Source Enterprise: A Mixed Prognosis

This fall, JBoss released version 4.0 of its Java application server—the first open-source product to receive the official sanction of J2EE compliance from Sun.

This certification is a big deal. Some studies show that JBoss is the fastest-growing Java platform among developers. And in this niche, its place is secure because JBoss integrates two technologies that developers know and like: the Tomcat container and the Hibernate persistence engine. To these, JBoss adds its own caching engine. I previously have discussed the importance of excellent caching mechanisms in enterprise Java (“Caching In on Java Caches,” Aug. 15, page 29), and they are included in JBoss’ solution.

To make a go of this now-ready-for-the-enterprise product, JBoss will have to button down a bit. Right now, the product is leased as an embedded platform to ISVs and used as a development platform from which code is then migrated (presumably to BEA’s WebLogic or IBM’s WebSphere). These positions hardly have the makings of an enterprise product.

However, I predict good things for JBoss because it has the key ingredients of a successful company: a good product,

a good executive team, an ability to generate attention, and a warrior’s relish for the fight. With the accelerating acceptance of open source in the enterprise and the J2EE diploma, JBoss could—with some luck—snag the bronze medal (gold and silver will be IBM’s and BEA’s for a long time). In the process, JBoss will, I believe, push aside Oracle, Sun and the smaller niche competitors (Macromedia, Persistence and Sybase).

If this path to success seems too easy, that’s because it rides along an odd market fault line: Vendors of Java application servers went into a big snooze once IBM caught up with BEA. Unwilling to invest into grabbing market share for permanent third place, they stopped pushing and just let the market grow as its internal forces would dictate—an almost perfect scenario for a motivated player with a good product. Enter JBoss.

Not all enterprise markets will be won over so easily by spirited open-source vendors. In particular, the database market will remain, in my view, very much the way it has been during the past few years: IBM and Oracle running neck and neck, Microsoft’s SQL

Server in third, Sybase far behind the leaders but competitive on the strength of its enduring popularity in financial services, and then a bunch of small players staggering after the leaders.

The biggest difference from the app-server market is that the big three vendors are all seriously committed, vigilant and ready to meet all challengers.

Oracle, of course, is the poster boy for pugnacious defense of its database turf. Microsoft is no shrinking violet. And IBM overtook Oracle—granted it was on the basis of the Informix acquisition—but after catching Oracle in databases and BEA in app servers, no one can say IBM does not respond to market challenges.

Bottom line: MySQL, which undeniably has come the furthest in marketing an open-source database, is not going to break into the glass house anytime soon.

In this context, IBM plays a most interesting role. Its reputation for supporting and embracing open source is unassailable due to truly extraordinary contributions to the movement. Yet IBM has no problem disrupting any pursuing open-source upstart by dropping marbles from the back of the truck.

Integration Watch



Andrew Binstock

Just this summer, IBM turned over its embedded Java database, Cloudscape, to the Apache Software Foundation. (By the by, it is a terrific product that’s completely free. It has the full complement of high-end features, including stored procedures, which MySQL still lacks. Cloudscape can run in a server configuration as well and hold databases limited only by disk size.)

The effect of Cloudscape and any other midrange database product IBM might care to open up is to disrupt poaching by upstarts. Sybase recently joined the party with the release of a free version of its flagship database on Linux (with some limitations that keep it at the low end). If open-source or free products are not sufficient, the big three will lower prices in the midtier and live off the enterprise packages, whose sales will be tied into other products (think PeopleSoft for Oracle and a slew of apps for IBM). Microsoft will be the least capable of playing this game and could be somewhat pressured.

JBoss and MySQL are not comparable in their prospects: JBoss will undoubtedly find its way to the big game, while open-source databases—all of them—will be shoehorned between enterprise packages and entry-level products and constantly pressured from both ends. ■

Andrew Binstock is the principal analyst at Pacific Data Works LLC.

Meet the .NET Developer's Boss

Her company’s .NET development efforts have been going on for two years, with remarkable success. All new Windows applications are being built in .NET, mainly using a mixture of C# and Visual Basic, and the transition to Visual Studio is complete.

While .NET has been good for developer productivity, it hasn’t been gentle to her budget. She’s spending a lot of money licensing reusable components, and that creates problems when different teams buy different components for the same purpose. She needs to enforce standards, reduce the overlapping functionality and bring costs under control.

Also, her programmers continue to need books and training, and Whidbey and Longhorn guarantee that her teams will stay on the learning curve. The new Visual Studio Team System offers a lot of promise for improving productivity, but her senior developers are worried about changing their tried-and-true toolchains, so that calls for a strong evaluation program.

What does she read? Not the code-centric programming monthlies, like Visual Studio Magazine or Dr. Dobbs’ Journal: Immersing herself in the nuances of the WS-Discovery specification or learning new sorting algorithms won’t help her manage a 45-person software team. She needs to see it all: the vendors, the trends, the patterns. She needs to know about products, standards, alliances, initiatives, the NEWS and what it all means. That’s why she reads SD Times.

SDTimes

The newspaper for software development managers



I.M. Developer, Esq.

Near the beginning—of open-source software, that is—licenses for using code were written in a clean, concise way so that developers wishing to use the available offerings could understand them. That certainly made sense, as developers first and foremost are the ones making the determination to use the code in the first place.

As of late, though, with more and more large companies poaching in the open-source pond and looking to turn a profit off what's there, more stringent use requirements are coming into play. In fact, the Apache Software Foundation earlier this year released version 2.0 of its license to afford the group and third-party users certain protections against patent infringement. There was, though, a gray area regarding redress of an inadvertent violation that Apache license revision lead Roy T. Fielding admitted was open to court challenge and interpretation.

Where you have more restrictions, and conditions under which certain code can be used getting stricter, you're sure to find one more thing: lawyers. In fact, Black Duck Software Inc. last month introduced a version of its protexIP intellectual property management software specifically for corporate lawyers.

Now, there are some people who might smirk and say getting lawyers involved in software development is the equivalent of my submitting this column to an editor who speaks only Ojibwe. However, with an estimated 200-plus open-source licenses currently in use, punctuated by the fear-uncertainty-doubt spread by SCO's lawsuits, getting the legal team involved is a good idea.

Think of legal review of code in the same way your family views insurance: You balk at paying the premiums, but you do because it's cheaper than a catastrophic loss would be. And as enterprise-class open-source software becomes more attractive to enterprise customers, you can bet the number of lawyers practicing software license review also will rise.

Industry Watch



"It's much more common than it was five years ago," said Ira Heffan, a senior associate in the patent and intellectual property group at law firm Testa Hurwitz & Thibault LLC in Boston. The firm was one of the first to help companies deal with the issues associated with the use of open-source software. "As open source becomes more prevalent, as the code is out there that people actually want to use in their software, that's when the traditional way of ensuring the licenses are OK, [which is to] look at the agreement during the purchasing stage, [is] out the window with open source."

The biggest concern for software companies that incorporate open-source code into their products, Heffan said, is having to deal with changes to the product in the field. If intellectual property infringement is found at that time, the software has to go back through all the life-cycle steps before it can be re-released—replanned, rewritten and retested. "And that's not two days," Heffan said, noting the cost of this exercise can be quite high.

David J. Byer, a partner in Testa Hurwitz's patent and IP group, said there are a number of entry points for lawyers in this field. Investors looking at software companies, the companies creating software themselves, and compa-

nies looking to take over other software companies all need assurances that they are not stepping into an IP minefield. "This is on the table frequently," he said. People want to know that when they are taking in your software, "they're not taking in problems with it. That could turn them away from you," in terms of creating a business relationship, or even in terms of a possible merger or acquisition.

The problem has the potential of being compounded by the new open-source business model, which is to give away the software but charge for collateral services. "This is a flourishing ecosystem," Byer said.

Another new market that could flourish is what Byer called forensic software, similar to Black Duck's tools. As open-source software moves toward ubiquity, there will be a need to automate the way licenses are tracked through an organization to ensure IP infringement does not occur. "Certainly, the sensitivity and consciousness is raised," he said.

"Open source just makes so much sense," said Heffan. "The shared software gives real code reuse, in a way where the transaction cost is low. The cost of getting the software is low, but costs shift. But it's still cheaper than licensing from a commercial vendor."

That might be true. But as money gets diverted from development to legal fees, and the fear of being sued has a chilling effect on innovation, the cost of open source on the software industry might be far greater than any costs of licensing commercial software.

Ultimately, as companies use components and code they know are safe, the open-source community will dissolve into a series of smaller, gated communities, with manned security booths at the entrance screening anyone trying to come in. ■

David Rubinstein is editor of SD Times.

BUSINESS BRIEFS

Sun Microsystems Inc. and **SeeBeyond Technology Corp.** have reached agreement on delivering service-oriented architecture solutions based on common Java specifications and other emerging industry standards. SeeBeyond will bring parts of its Integration Composite Application Network (ICAN 5) to the Java Enterprise System, beginning with SeeBeyond's eGate Integrator 5 platform on Sun's application server, which will act as a foundation for SOA-based systems development. The companies will focus on RFID and portal application development at first; the solutions will be jointly marketed and sold.

EARNINGS: Content management solution provider **Stellent Inc.** reported revenue of US\$28 million for its second fiscal quarter 2005, ended Sept. 30. Revenue was up 23 percent from the \$22.7 reported in the first quarter, and increased 51 percent from the \$18.5 million reported for the same period a year earlier. Revenue got a boost from Stellent's acquisition of **Optika Inc.** on May 28, as this was the first full quarter its impact on the company's financials was felt. Revenue for the first two quarters was \$50.6 million. The GAAP net income for the quarter was \$800,000, or 3 cents per share, compared with a net loss of \$2.5 million from a

year earlier . . . Data integration software vendor **Informatica Corp.** reported revenue of US\$52.4 million for its third quarter ended Sept. 30, compared with \$50.6 million in revenue for the same quarter in 2003. The company posted a GAAP net loss of \$8.6 million, or 10 cents per share, compared with a net loss of \$300,000 in the same period a year earlier. Pro forma net income for the third quarter was \$2.1 million . . . **VMware Inc.**, maker of virtual infrastructure software, reported revenue of US\$61 million for its third quarter . . . Business process integration solutions provider **Vitria Inc.** reported third-quarter 2004 revenue of US\$16.3 million, compared with \$18.8 million from the same quarter in 2003. For the quarter, the company showed a net loss of \$2.1 million, or 6 cents per share, compared with a net loss of \$3.7 million, or 11 cents per share, from a year earlier. "We are pleased with our third quarter results and believe the improvement over the results of the first two quarters of the year demonstrate that the steps we have taken to sharpen the company's sales execution are beginning to take hold," said Dale Skeen, founder and CEO of Vitria, in a statement. "We also believe that our gathering momentum in the marketplace validates our strategy of delivering solutions built on our outstanding software platform." ■

CALENDAR OF EVENTS

- | | |
|---|-----------------|
| Oracle OpenWorld
San Francisco
ORACLE CORP.
www.oracle.com/openworld/sanfrancisco/conference | Dec. 5-10 |
| Software Test & Performance Conference
Baltimore
BZ MEDIA LLC
www.stpcon.com | Dec. 7-9 |
| Macworld Conference & Expo
San Francisco
IDG WORLD EXPO CORP.
www.macworldexpo.com/live/20 | Jan. 10-14 |
| Web Services on Wall Street
New York
FLAGG MANAGEMENT INC. & LIGHTHOUSE PARTNERS INC.
www.webservicesonwallstreet.com | Feb. 1-2 |
| LinuxWorld Conference & Expo
Boston
IDG WORLD EXPO CORP.
www.linuxworldexpo.com | Feb. 14-17 |
| Web Services Edge 2005 East
Boston
SYS-CON MEDIA INC.
sys-con.com/edge2005east | Feb. 15-17 |
| SHARE
Anaheim
IBM CORP.
www.share.org | Feb. 27-March 4 |
| EclipseCon
Burlingame, Calif.
ECLIPSE.ORG
www.eclipse.org/eclipsecon2005/eclipsecon.html | Feb. 28-March 3 |
| Embedded Systems Conference
San Francisco
CMP MEDIA LLC
www.esonline.com/sf/index.htm | March 6-10 |
| Developer Relations Conference
San Jose
EVANS DATA CORP.
www.evansdata.com/drc | March 7-8 |

For a more complete calendar of U.S. software development events, see www.bzmedia.com/calendar.

Information is subject to change. Send news about upcoming events to events@bzmedia.com.

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